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WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI: Sundays, 1100 hours EST, 7146 Kc. and 2000 hours EST 50 and 144 Mc. No frequency checks available from VK2WI. Intrastate working frequency, 7125 Kc.

VK3WI: Sundays, 1130 hours EST, simultaneously on 3573 and 7146 Kc. and re-broadcast on 50 and 144 Mc. Intrastate working frequency 7135 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI: Sundays, 0900 hours EST, simultaneously on 7146 and 14342 Kc. 7085 Kc. channel is used from 0930 to 1030 hours each Sunday for the W.I.A. country hook-up. No frequency checks available.

VK5WI: Sundays, 1000 hours SAST, on 7146 Kc. Frequency checks are given by VK5DW by arrangements only on the 7 and 14 Mc. bands.

VK6WI: Sundays, 0930 hours WAST, on 7146 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7146 Kc. and 146.5 Mc. No frequency checks are available.

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EDITORIAL

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TOO YOUNG AT SIXTEEN?

Ever since the re-allocation of Amateur Station Licenses in the post war era the Institute has been asked "Why cannot a person be licensed to operate an Amateur Station at the age of sixteen years?"

This is a serious subject and one that has two "schools" of thought—the old and the new. By the old is meant people of so called "mature age and judgment," and the new, people mature in age but whose tenure could be said to be considerably less than their more aged brothers insofar as experience in the affairs of the world is concerned.

In deliberating on a decision of this nature one must have due regard to these two groups of people, because in a progressive and scientific world such as the past two generations have been born into, it is imperative that the newer group has a say, tempered if necessary by the more experienced voice of the older group.

Everywhere in the world today young people still at school take a keen interest and active parts in the affairs of all kinds of clubs and institutions, and they are encouraged to do so; they have advanced by some years their activities, compared to their forbears at the same age.

And why? Because educational and living standards have changed with the passing years. With the advent of the electronic and electro-mechanical age, school curriculums cover a wider sphere of learning, there are more basic principles to learn, the older ones must sometimes be modified to fit men for modern learning—all in all, the modern scholar must be more knowledgable —and is in fact more so—than the scholar of two decades ago. One has only to heed the oft' spoken words, "I don't know what he is talking about, I never learned that at school in my day"—or even just listen to the modern scholars talking among themselves.

By and large, the older group—composing the parents of today—countenance all sorts of activities by their offspring—club activities, photography, chemistry, dancing, in fact anything that assists their educational advancement and at the same time serves as a relaxation from their normal school study periods.

And yet, without any authenticity, you will hear the older group—and to be fair, the newer group, too, sometimes—say that scholars in their early teens should not take up radio as a hobby, particularly to become an Amateur Operator, because such an activity interferes with their studies! "To grant an Amateur License at the age of sixteen," they say, "is too young because studies continue even after completing the normal school terms up to intermediate and leaving standards."

This thinking is utterly wrong and baseless in fact!

The study of radio takes in basic theory of electricity and magnetism and mathematics almost entirely in one form or another, and, having gained a license, a scholar operating a station on the air gains stupendous insight into the subjects in an advanced form with the added phase of geographical learning thrown in for good measure.

The solution of the problem is simple enough. If a scholar has the knowledge and temerity to pass an A.O.C.P. examination at the age of sixteen he should be granted a license.

The key to the problem of interference to studies is one of parental control—nothing else—and should be subjugated to the right perspective. Parents should not permit their son or daughter to "play" radio at the expense of studies any more than they are prepared to permit them to attend clubs, go dancing, or "play" at any other hobby. But relaxation one night per week at least, is the forerunner of a sound, logical, healthy and contented mind.

Grant an Amateur License at the age of sixteen! Why not?

FEDERAL EXECUTIVE.

THE CONTENTS . . .

Some Pointers on Good Quality Phone

BY R. DOWLING,* VK3XD

Herewith are a few hints for phone transmission if you want a pat on the back for good quality signals.

All power supplies to be well filtered, plenty of buffing with amplifiers, Class C or Class B, doublers; no regeneration of any stage in itself or to other stages; decouple the stages in your power supplies by good chokes and condensers.

The buffing with amplifiers prevents frequency modulation of the carrier, and/or carrier shift. (These between oscillator and final stage.) In other words the carrier beat note should never change, as observed on a receiver with the b.f.o. in operation.

The Class C buffers should be perfectly neutralised (not doublers). The final modulated amplifier should be capable of perfect neutralisation. Feedback in the final amplifier will be reflected in non-linear modulation (almost like single side-band). This will cause audio amplitude distortion of the signal.

The Class C final, if modulated, should be biased to about 2.2 times cut-off and should have about 25% more grid excitation than for c.w. operation. Lack of drive (also some in reserve) will also cause non-linear modulation. (One side of carrier modulated more than other, or modulated non-symetrically.)

The tubes used in the final Class C modulated amplifier must have a reserve of filament emission, sufficient to allow the peak plate current to double during 100% modulation. This, if not done, will also cause non-linear modulation. (Don't over-couple your antenna with low plate voltage to get more output, or don't worship the amplifier's milliamperes, if you do, you will kill the tubes.)

The modulators, if Class B, should be assisted by a swinging choke in the power supply filter. This means that with variation of plate current on the tubes, between standing current and maximum audio drive, the more the plate current. The filter should work to cope with varying loads for good voltage regulation which means that a swinging choke is a component which varies in its inductance according to the varying currents passing through the windings, viz., the choke on light current loads, no modulation (choke input filter), and when the load is heavy (modulating, more plate current rise) (condenser input). This choke then needs an assistant, a 30 hy. choke, and large capacity filter, 8 uF. or more on the output of the supply to bring about good decoupling and preserving audio response.

Good shielding or isolation of the r.f. portion from speech equipment. No r.f. to get into speech equipment whatsoever. If it does, it cancels out the audio causing overloading, blocking, whistling or singing, and instability of audio.

Completely shielding the speech amplifier is preferable to shielding the r.f. section of the transmitter. This is hard to believe, but personal experience has shown to me that unwanted coupling and r.f. to audio equipment increase directly with the frequency used. When operating on 20 metres, the transmitter, for a given degree of operation with good isolation resulting in good signals or trouble-free ones, will be almost useless on 10 metres due to feedback troubles.

Suggest getting the rig going on 10 metres first for 10, 20 and 40 metre operation if good signals are wanted on 10 metres. The feedback from a 20 metre transmitter for a given degree of isolation (mediocre) is eight to 10 times as evident as in a similar transmitter operating on 120 metres, and eight times as much shielding and trouble-precautions are necessary to isolate audio from r.f. troubles.

[A separate power supply for the speech amplifier and decoupling through a 600 ohm line to the drivers for the modulators pays dividends in this respect.—Tech. Ed.]

R.F. goes everywhere, regardless of paths of low or high resistance, not necessarily the shortest path to audio circuits. R.F. in low level audio circuits causes all kinds of troubles.

As you know, the actual process of modulation is the mixing (superimposing) of audio and radio frequency (carrier) or superimposing audio (a.c. on d.c. (r.f. carrier); a complex business. In your case, this all occurs in the plate circuit of the Class C r.f. stage. The term "plate modulation" is not strictly accurate, but power modulation is more descriptive of what goes on.

Now this final stage. It is possible that your carrier, with no modulators connected, could be putting out a distorted wave form due to wrong Q of the final tank circuit. To correct this, you must have the stage operating to give you more output with coinciding minimum plate current, and until you get this condition in the final, you cannot load properly with the antenna to maintain that large reserve (flywheel effect) necessary to produce a signal with effective modulation, whereby the tube filament emission has sufficient reserve to permit the plate current to double during 100% modulation. If this is wrong, we then come back to non-linear modulation, splatter, distortion. "So do ye ken?"

* 6 May Street, North Fitzroy, N.7, Vic.

Simple Conversion of AR301 to 144 Mc.

BY D. C. HABERECHT,† VK2RS

Before detailing the necessary minor alterations, a few words regarding the original receiver will not go astray.

The AR301 formed part of airborne equipment, A.S.V. type, operating on frequencies between 170 to 178 Mc. The design includes four i.f. stages at 30 Mc., using 6AC7 valves, the r.f. end comprising of two 954s as r.f. amplifiers, and two 955s as mixer and oscillator.

These receivers can be obtained through disposals stores at a reasonable cost and lend themselves particularly well to conversion to 144 Mc. The whole conversion should not take much more than an hour to complete.

ALTERATIONS TO WIRING

Firstly remove the original power supply wiring and if you so desire, remove the power transformer and choke, thus leaving ample space for a self-contained power supply. Then check over filament and h.t. wiring for breakages or corrosion, etc.

From the junction of resistors marked R16, R21, etc., located on the terminal strips connecting the 6AC7 i.f. stages, wire in a 5,000 ohm wire wound potentiometer. This control conveniently serves as an i.f. gain control, as this receiver is not equipped with a.v.c. This will prove useful in controlling some of the stronger signals.

The only other stage requiring alteration is the last 6AC7 stage following the 6H6 detector stage. This 6AC7 was originally wired as a cathode follower and can be quite simply converted to an audio voltage amplifier. To do this, simply remove the cathode resistors and replace with a 5,000 ohm resistor, by-passed with a 25 uF. condenser. Then from the plate of this valve, remove the 500 ohm resistor and replace with a quarter meg. resistor; next connect to this plate a 0.1 uF. condenser to a half meg. volume control, taking care to shield the leads to this control. The return lead from the control is then brought back to the grid of the spare socket immediately adjoining the last 6AC7 stage. This socket is then wired in the conventional manner as an audio power amplifier using any available output valve.

The only other alteration necessary is to remove the co-axial lead from the switching motor and plug it into one of the spare co-axial plugs on the front panel.

FREQUENCY COVERAGE

If you are lucky enough to have access to a grid dip meter, little difficulty should be experienced in re-setting the stages to cover the 2 metre band. Should a grid dip meter not be available, a simple absorption meter will do the job equally as well, but will be more painstaking.

In order to get the oscillator stage tracking over the range from 114 Mc. to 118 Mc., a small air trimmer is wired directly across the oscillator coil. Then adjust this stage in steps, keeping the aerial and r.f. circuits peaked, until a noticeable drop in noise level occurs when you inductively couple the wavemeter to the second r.f. stage or mixer, making sure to use as little coupling as possible in giving you sufficient indication.

A final check on alignment can be obtained either from a signal or from car ignition noise.

This receiver, with these alterations, should prove a very successful and worthwhile inclusion in any v.h.f. man's shack, and most certainly offers a good and inexpensive means of covering the 2 metre band.

† Room 17, Central Chamber, Kiewa Street, Albury.

TELEVISION MADE EASY

Part ix.—Outline of Color Television

BY KEN WALL† AND JOHN JARMAN,* VK3ADA

So we have learnt how a television set works —and why it sometimes does not, but what is this color television we hear so much about? Indeed, this subject has received so much publicity in the past two years, that this series would be incomplete without mention of it. Let it be understood from the outset, however, that no color system has yet been perfected. In other words, color television is still in its experimental stages, and in this concluding article we will discuss the main trends of overseas experiments.

How often have we wondered how colors could possibly be transmitted by radio? Well, strictly speaking, they are not! In every color system the picture is transmitted just as if it were in plain black and white, the color being applied artificially after reception. The whole "mechanism" of color television can be summed up as a means of ensuring that this artificial coloring is performing correctly. Its operation depends on two elementary principles, viz.:—

1. Light of any color can be reproduced by the "blending" of three primary colors—red, green and blue, in correct proportion.

2. Conversely, the light reflected by any object can be "split-up" into these primary colors, in different proportion for every reflected color. Study these carefully, before reading any further.

Now white, for example, is composed of the whole three; yellow is a combination of red and green, and black is the absence of the whole three. By means of color filters, these primaries can be separated. For instance, a red filter allows red light to shine through it, but "blocks" all other colors, and if placed over the lens of a camera, will allow the latter to photograph only the objects whose colors contain the primary, red. Likewise, blue and green filters "pass" only blue and green light, respectively, and when a scene is to be televised in color, here is briefly what happens.

Firstly, all the red components are "extracted" by a red filter, transmitted as one group, and after reception, tinted red. Likewise, all the blue components are extracted from the same scene, by a blue filter, transmitted as one separate group, and tinted blue after reception. The green components are treated in the same way.

In the receiver, we therefore have three incomplete pictures, each of a uniform color. By combining them, we reproduce the original picture in full color. At once we see that an essential feature of color television is the transmission of three separate sets of detail (which, for convenience, we will call "images"), instead of one, and the problem confronting scientists, is how to do this, without increasing the bandwidth, or sacrificing picture quality. Remember, too, that color is not applied until after reception. Each image is transmitted in black and white, or "monochrome" as it is termed.

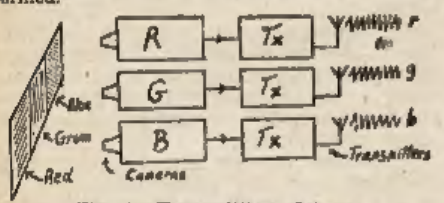

Fig. 1.—Transmitting Set-up.

To illustrate the principles of coloring, we will first consider a purely imaginary set-up. Fig. 1 shows three television cameras, each focussed on the same object, which is a rectangular board, painted red, green and blue. Camera R is fitted with a red filter, so it receives only red light. Similarly, cameras G and B are fitted with green and blue filters, and respond only to green and blue lights respectively. The images formed in the three cameras will therefore be as shown in Fig 2.

Fig. 2.—Images Transmitted.

Now suppose each camera be connected to a separate transmitter, on a different frequency. Our picture will therefore be transmitted as three separate signals—r, g, and b.

For reception, we will use three television receivers, tuned respectively to the three frequencies, as in Fig. 3. Receiver R will reproduce the image, shown in Fig. 2a. Likewise G and B will reproduce the images in Fig. 2c and 2b respectively. But each of these images is in monochrome! Let's color them.

Over the face of cathode ray tube R, we place a red glass, and likewise, we will fit green and blue glasses on tubes G and B respectively. We now have three colored images. All that remains to be done is to combine them.

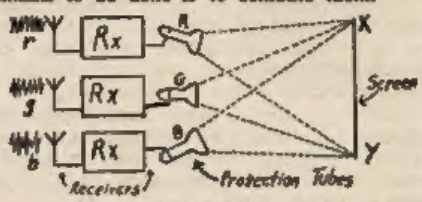

Fig. 3.—Receiving Set-up.

Now there is a type of cathode ray tube available whose face glows with such high brilliance that if fitted with an optical lens, it will project its image on a distant screen, just like a magic lantern. Let us fit this type of tube, with lens, in each receiver so that each image is projected (through a colored glass) on to the screen XY. The three colored images will now combine, to reproduce the original picture in full color.

As a further illustration, suppose the televised object was yellow all over. The images transmitted would now be as shown in Fig. 4.

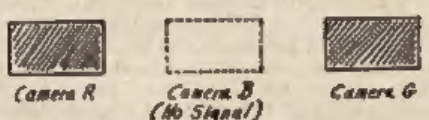

Fig. 4.—Images Transmitted for Yellow Object.

In place of the colored glasses, we can use tubes with colored phosphor coatings, thus producing the required colored light beams. Now for perfect color reproduction (or "color fidelity"):—

1. Color applied to each received image must be identical with that "accepted" by the corresponding filter on the camera.

2. The brilliance, for a given signal strength must be the same in each receiver tube, otherwise colors will not be correctly balanced.

3. The three images projected on the screen must coincide perfectly with each other. This is called correct "registration" of color.

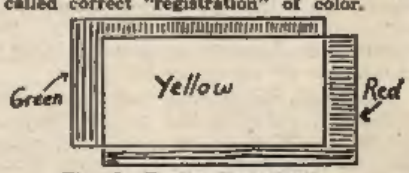

Fig. 5.—Faulty Reproduction.

Fig. 5 shows an example of faulty color registration, where our yellow object appears as two; one in red, the other in green. In the preceding illustration, each image was transmitted continuously. In other words, the whole three were transmitted simultaneously, so that this is called a "simultaneous" system, requiring three times the bandwidth of a monochrome signal. Such systems (with modification) have been tried, but rejected.

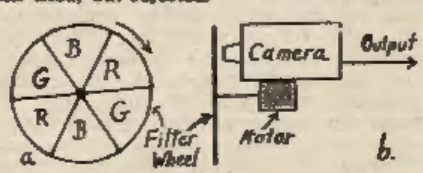

Fig. 6.

An alternative method, requiring only normal channel width, is to transmit the images alternately, in quick succession. Take a look at Fig. 6. Using only one camera, suppose we mount our color filters in a wheel (a), and set it revolving in front of the camera (b) and synchronised so that each field is scanned through a different filter segment. During scanning of the first field, for example, a red filter is in front of the lens, so that only the red components of the picture are "seen" by the camera. During the next field, however, a green filter segment is in front of the lens, so that only green components are transmitted, and likewise, every third field contains only the blue components. The color images are, therefore, transmitted in sequence so that this is called a "field-sequential system."

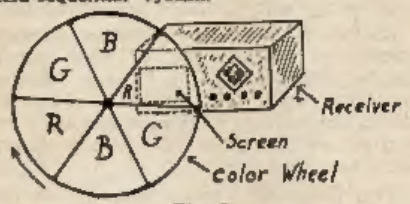

Fig. 7.

Now look at Fig. 7. In front of the receiver screen (which is one single c.r.t.) a color wheel revolves, similar to our aforementioned filter wheel, and synchronised with same, so that while a red filter is in front of the camera lens, a red glass covers the receiver screen so that all the red components, having been "sorted out" by the filter, are now tinted red in the received picture. Likewise, the green and blue components are reproduced in their respective colors and the three colored images are repeatedly flashed before the observer in such quick succession that they appear to "blend," reproducing the original picture in full color.

In other words, our old friend "persistence of vision" is being further exploited, but wait! This has its limitations. Consider our yellow object (Fig. 4) received as two images, red and green. These will appear to blend, only if both occupy the same position, on the retina of the eye. Now, if the eyes are moved, this will not be the case, so that object will appear in red and green, as shown in Fig. 5. This is called "color break-up." Movement of the object gives the same effect, but in this case, it is called "color fringing." Take also the case of a large area of primary color (e.g., blue sky, or green grass). Since each primary color is scanned only once in three fields, it will appear on the screen only 50/3 equals 17 (approx.) times per second, giving severe flicker.

Each of these defects, however, can be overcome by stepping up the field frequency, and an American Company, using this system, achieved an acceptable result, by increasing it from 60 to 144 fields/sec. To maintain the permissible bandwidth, however, the number of lines per frame had to be reduced from 525 to 405!

We see, therefore, that in a sequential system, each primary, instead of being transmitted continuously, is "sampled" rapidly. For convenience, we may crudely say that our transmission keeps "changing color." In the field sequential system just described, it changes after every field, but there is another system, in which it changes after every line.

In the camera, a special optical system focusses the three images on to the one target, side by side. As the scanning beam travels across, it scans one line of each image. Since it is also descending vertically, however, it will scan the next alternate line of each image. For example, if it scanned line 1 of the green image, it would scan line 3 of the blue, and line 5 of the red.

The receiver uses a special tube, whose face has three phosphor coatings, side by side, corresponding of course to the three images on camera target, and each glowing a different color. A special optical system "combines" these three coatings, so that to an observer, they appear to coincide, forming one frame, in which the lines are reproduced in the order green-blue-red, green-blue-red, etc. This is called the "line sequential" system and, since it uses the same line and field frequencies as the standard monochrome system, its pictures can be received in black and white on existing receivers, without modification. It is therefore classed as a "compatible" system.

It has, however, some grave disadvantages. Any line of a pure primary color is scanned only once in six fields, and in a 60 field/sec. system (as used in American experiments), it appears only ten times per second, causing "inter line flicker," and apparent vertical movement of the horizontal lines, called "line crawl."

Before dealing with the next color system, let us review a little elementary theory. In

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* A11426 L.A.C. Jarman, J. B., c/o. A.R.D.U., R.A.A.F., Woomera S., South Australia.

article 3 we briefly mentioned the "picture element," which is defined as the shortest distance along a scanning line, in which the shade can change from white to black. Each line of a television picture is therefore composed of a row of elements, which correspond to the grain particles in photographic film, and the dots, which constitute a printed photo (in a newspaper, etc.). For convenience, we will call these elements "dots."

Now examine a newspaper photo carefully and note that at normal viewing distance, the individual dots cannot be distinguished. They appear to merge into areas of uniform shade. Now, if these dots were of different colors, the viewer would not see their individual colors, but the resultant. We therefore have another method of blending colors. Let us see how this can be used in television.

We have already seen that in any sequential system the received picture is continuously changing color, so rapidly that the viewer apparently sees the colors combined in one picture. So far we have tried changing the color after every field, and after every line. Having seen how each line is received as a row of dots, let us now try changing the color after every dot!

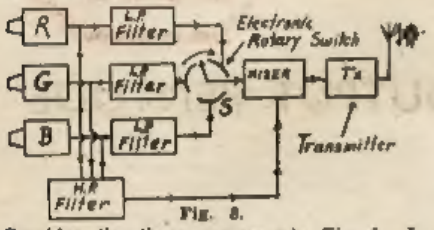

Fig. 8.

Consider the three cameras in Fig. 1. Instead of connecting each one to a separate transmitter, let us connect them alternately to the one transmitter, as in Fig. 8, by the rotary switch, so that at any instant, only one camera is on the air. Momentarily ignoring the filter circuits, suppose S be an electronic switching device, operating at such a high speed, that each camera is on the air only for the duration of one dot! Yes, we have done it! Each line is transmitted as a row of dots, each representing a different primary color.

For reception the arrangement in Fig. 3 can be modified, so that the three cathode ray tubes are alternately connected to the one receiver, through an electronic switch similar to that in the camera unit, and synchronised with same.

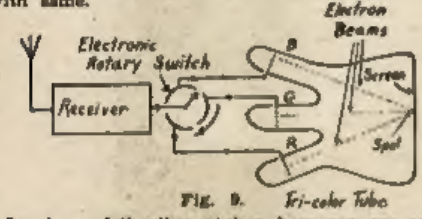

Fig. 9. Tri-color Tube

In place of the three tubes, however, we can use the special tri-color tube, illustrated in Fig. 9. This tube has three electron guns, and a screen with special phosphor coating, which can glow in either red, green, or blue, depending upon the angle, from which the electron beam strikes it. Gun B is placed so that wherever its beam strikes the screen, it will produce a spot of blue flourescence. Likewise, guns G and R are placed so that their beams will always produce spots of green and red, respectively.

The three beams scan the screen concurrently, so that at any instant, all beams are directed at the same point. Only one of them, however, is active. In other words, the three grids are biassed, so that at any instant, only the one connected to the receiver will give its beam sufficient intensity to produce any visible flourescence. Screen is therefore scanned by a spot of light, whose color is rapidly changing, so that each line of the picture is "painted" as a row of dots, of different colors. In a white line, for instance, the dots would run in the order: green-red-blue, green-red-blue, etc., each dot so small, that at normal viewing distance, they would appear to merge into the resultant—white.

This method is therefore called the "dot sequential" system. In actual practice, the three-camera arrangement in Fig. 8 is replaced by the apparatus in Fig. 10, which was three camera tubes, but only one optical system. Color filtering is performed by three special mirrors, each reflecting only one primary color and allowing all other colors to shine through it. They are therefore called "color selective" mirrors. This system is "compatible," i.e. its pictures can be received in black and white on existing sets, without modification. Furthermore, this system lends itself to a unique modification. Readers familiar with color printing will know that a color picture is printed in four stages, viz.: three primary colors and a fourth in black and grey. This fourth "impression" serves two purposes. Firstly, it brings out the fine picture detail more clearly, and secondly, it covers up minor faults in color registration (Fig. 5).

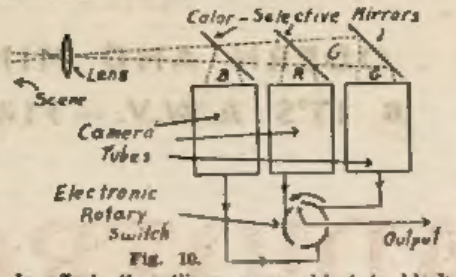

Fig. 10.

In effect, it outlines every object in black ink, and it achieves this by simply reproducing all the finer details in black and grey, leaving only the larger areas in color.

Now in the dot sequential system, the same effect is achieved electronically. Remember, the finest picture details will produce the highest video frequencies. Looking back at Fig. 3, we now see what the filters are for. The low-pass filter, connected to each camera blocks all frequencies above about 2 Mc., so that only the lower video frequencies reach the switch. The remainder are "collected" by the high-pass filter, mixed, and inserted in the signal ahead of the switch, and will therefore be continuously transmitted, irrespective of which camera is on the air.

In the receiver, therefore, these higher video frequencies are applied to all electron guns, irrespective of the colors represented. Consider the effect. Each negative half cycle (above 2 Mc.) will cut off all three electron beams, so that the reproducing spot (i.e. the spot that changes color!) will momentarily turn black. Each positive half cycle, on the other hand, will release the three primary colors, in the correct proportions to produce white, or grey. The nett result is that all details less than about eight dots in width, are reproduced in black and grey and only the larger ones in color. Since there are over 400 dots per line, eight is only a small percentage.

This principle is applicable only to the dot sequential system, since the other systems make no distinction between the dots, along each line. These dots have further significance, which is worth mentioning. They are a measure of pictorial detail, or "resolution," as it is termed. The more dots per picture, the clearer will be the background ("close-ups" not being appreciably affected).

For comparison, 35 mm. theatre film uses about one million dots per frame; 16 mm. home-movie film uses 200,000-250,000, while 8 mm. home-movie film uses only 50,000!

And television? Let us first explain. Each dot represents half a cycle of video current, so that the number of dots per frame is limited by the bandwidth of the signal, so that although the height of each dot is fixed (equals thickness of scanning line!), the length will depend upon the highest video frequency the system can handle. Each dot is therefore oblong rather than square. (Read the definition again.)

American television therefore achieves resolution of about 200,000 dots per frame, in monochrome. In the field sequential color system, this is reduced to about 166,000. In the line sequential system, it's appreciably higher than this, whereas the dot sequential system achieves the same resolution as monochrome, viz. 200,000. Australian television should have greater resolution than its American counterpart, since we will use a lower field rate, while allowed a greater bandwidth, so the number of elements per line can be increased proportionally.

Of all color systems, the dot sequential seems the most promising but it has its drawbacks. Firstly, in both camera and receiver, there are three separate scanning beams, introducing difficulties in both color registration (Fig. 5), and color balance. In white, and in flesh-tints, the slightest misbalance can ruin the picture. Furthermore, the tricolor tube used in this system is extremely expensive to manufacture, nor does it lend itself to mass-production.

The field sequential system, on the other hand, uses only one scanned surface in both camera and receiver, nor does it rely upon colored phosphors for color reproduction, but purely upon color filters, which, being an older invention, have naturally reached a higher standard of development, color registration, balance, and fidelity, are therefore achieved automatically, and with much cheaper apparatus than other systems. It was mainly for these reasons that the Federal Communications Commission (U.S.A.) approved of the field sequential system, back in 1950, in preference to the other methods.

To realise these advantages, however, the receivers must use mechanical color control (although adaptable to electronic methods). This is inconsistent with modern practice, which tends to eliminate moving parts. In any case, this system is incompatible, inevitably using non-standard line and field frequencies so that its adoption would make all existing receivers obsolete.

The line sequential system suffers inherent line crawl, interline flicker, and reduced apparent vertical resolution, and seems incapable of much improvement.

In view of the problems imposed by color, one might well ask whether color television is really necessary. Unfortunately, the answer is "yes," for two reasons.

Firstly, for educational purposes. Chemistry students, for example, can learn little, by watching experiments, or demonstrations by television, unless they can also see the color changes in chemical reactions. To medical students, color is equally important, in the television of a surgical operation, and similar arguments can be applied to almost every branch of science.

The second reason is less apparent, but equally important, and is best understood by comparing television with a newsreel. In the latter case, the film, before screening, can be examined, and modified. Scenes of no interest can be cut out; those too long can be cut shorter, and the strips finally selected for inclusion can be arranged in whatever sequence will prove the most entertaining, and pieced together, to be further enhanced by a rehearsed commentary.

Now in television, where the programme must go direct from scene to screen, this "second chance" does not exist, and in any unrehearsed type of programme, it often becomes very difficult to hold the attention of the audience. Long periods may elapse, before anything interesting happens, yet, cameras must remain trained on the scene, in anticipation. This is where color would help enormously, by providing extra "channels" of interest.

During a cricket match, for instance, color would allow the audience, during lulls between runs, to study the surroundings of the oval, to say nothing of dress fashions amongst the spectators. In general, color would maintain the interest of the audience, wherever programme material failed. There is ample motive, therefore, for scientists to perfect color television, however long this may take.

It is encouraging to compare color television with talking pictures, which were first screened as early as 1913, but not perfected until 1920, and the first attempts were so futile, that they literally disgusted their audiences. Color television is going through this same phase, and some day it will surely reach the same standard and be just as common as talking pictures are today.

In October, 1951, America suspended all work on color television, to conserve materials for defence needs. Meanwhile, it is quite probable that electronic research in other fields will provide the clues to perfect a color system far superior to those described here.

Although attention has been concentrated upon sequential systems, there is still hope for simultaneous systems, which would overcome most flicker problems. They were originally put aside because of the excessive bandwidth required, but methods of condensing this bandwidth, without sacrificing picture quality, are still being sought. For instance, some scientists claim that in the wide band covered by a video signal there are certain odd frequencies never used, and are investigating the possibility of using these, to carry the extra detail required for color. Nor has Britain been asleep, during all this research work, across the water. She has done some very important color experiments.

Well fellows, that is the story of television. We hope you have found these articles interesting, and if they help you to prevent t.v.i. when television comes to Australia, they will have admirably fulfilled their purpose. Meanwhile, try and keep up to date with the latest developments in television (described in most radio magazines), and remember, our query service will still continue, so keep those questions rolling in. All queries received by 3ADA (at the given address) are answered directly, by mail, and any that may interest fellow readers are answered in duplicate, the second copy being submitted to this magazine, to be published anonymously, when space permits.

Queries need not be confined to the subject matter of these articles. Already many interesting questions have been received from readers, concerning aspects of television of which they had read in other magazines, but which we had purposely excluded from these articles for simplicity. We strongly encourage readers to submit queries of this type, since they are a measure of your interest in the subject, and we are delighted to answer them.

AMATEUR CALL SIGNS

FOR MONTH OF FEBRUARY, 1952

ADDITIONS

VK— **New South Wales**

2HE—Dr. H. A. F. Rofe, 16 Stanhope Road, Killara, Sydney.
2ADB—A. A. Cheetham, 9/26 Manion Ave., Rose Bay, Sydney.
2AJO—J. S. W. Edge, Wallace St., Coolamon.
2AJX—H. R. Barrington, 243 Anzac Pde., Kingsford.
2ANZ—J. P. Shortall, 28 Lower Wycombe Rd., Neutral Bay.
2APV—A. H. Gray, Station: 35 Blues Point Rd., McMahons Point, Sydney; Postal: 35 Middle St., McMahons Point.
2APX—E. Piraner, 47 Jubilee St., Dubbo.
2AVB—R. W. Pratt, 73 Bassett St., Hurstville.

Victoria

3FK—J. B. Neale, 91 Francis St., Bairnsdale.
3LW—A. F. B. Nickson, 18 St. Andries St., Camberwell, E.6.
3NV—G. E. Nixon Smith, "Edgemont," Derrinallum.
3SV—J. F. Howarth, Faraday, via Chewton.
3TV—A. E. Styles, "Allendale," Warrigal Rd., via Ashburton, Holmesglen.
3ABL—Dr. J. D. Blackwood, 10 Mooltan St., Flemington, W.1.
3ACA—J. A. Adcock, 75 Gordon St., W. Coburg.
3AFT—J. H. Gribbon, 55 Churchill St., Morwell.
3ATG—Dr. E. Marks, Station: Heatherset Rd., Sassafras; Postal: 1150 Malvern Rd., Malvern.

Queensland

4XH—H. A. Perkins, c/o. A.W.A. Aviation Service, Station 4TO, Townsville.
4JK—J. H. Cruice, Kilcay Rd., Woodford.

South Australia

5OB—W/O Baker, L. O. C., R.A.A.F. Station, Mallala.
5RS—R. S. Edgar, 34 Lily St., Blair Athol.
5SC—E. K. Broadbridge, 161 Coglin St., Brompton Park.

Territories

1SD—R. J. Hosenson, Heard Island.
1FN—A. M. Perriman, Heard Island.

ALTERATIONS

VK— **New South Wales**

2DW—Lot 187, Dargan Street, Bass Hill.
2GX—8 Macleay Street, North Ryde.
2LX—285 Ocean View Road, Ettalong.
2OT—38 Hebburn Street, Newcastle.
2RS—Room 17, Central Chambers, Kiewa St., Albury.
2TS—S.S. "Iron Kimberley," c/o. B.H.P. Ltd., Newcastle.
2ABT—Electrical Engineer, Ulan County Council, P.O. Box 91, Coonabarabran.
2AFD—Ocean Avenue, Woonona.
2AFQ—Vessel "Syangle," c/o. Box 3287, G.P.O., Sydney.
2AIL—11 Wesgarth Street, Turner, A.C.T.
2ASM—10 Monash Parade, Dee Why.

Victoria

3GY—11 Beatrice Street, Burwood.
3IT—6 Olinda Avenue, Olinda.
3IZ—High School, Yarram.
3JX—c/o. 3HA, Hamilton.
3OD—Brighton Street, Frankston.
3ADG—2 James Avenue, Highett, S.21.
3AFW—2a Unley Grove, Ascot Vale.
3AMR—580 Barkly Street, Footscray, W.12.
3ANL—Victoria Street, Kerang.
3ARB—c/o. 21 Bennett Road, Horsham.

Queensland

4CI—56 Musgrave Road, Red Hill, Brisbane.
4DE—Married Quarters, "Camp Magnetic," R.A.A.F., Townsville.
4ES—9 Paxton St., Holland Park, S.E.3.

South Australia

5MA—Cr. Barwon and Eighth Sts., Renmark.
5PL—2 Dew Street, Kent Town, Adelaide.
5QI—Oleanda Street, Brighton.
5RD—415 Seaview Road, Henley Beach.
5VJ—Lincoln Place, Port Lincoln.

Western Australia

6LK—35 Schmitt Road, Kalamunda.
6WT—9 The Grove, Wembley.

Territories

1RF—Heard Island.

DELETIONS

N.S.W.: VKs 2FR (now operating under 3SV), 2PP, 2SD (now operating under 1SD), 3WO (now operating under 4XH), 2AGN (now operating under 3NV), 2AJX, 2AKC.

Vic.: VKs 3AM, 3DY, 3OR, 3PN (now operating under 1PN).

Qld.: VK4ZU.

S.A.: VKs 5LZ (now operating under 3FK), 5TS (now operating under 3TV).

W.A.: VK6PX.

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WAS IT YOU?

An Open Letter to a Ham

Dear OM,

Yesterday afternoon I heard you on ——Mc. I know it was you for I've known you for years and I recognised the voice. You put your carrier on and off several times during twenty minutes, you counted, you said "hullo test," you whistled, you muttered something to someone else in the shack, **but not once did you give your call sign.** Even assuming that in that you were not committing a breach, what have you against your call sign? Don't you like the sound of it unless from a DX station? Doesn't it make a good "test" pattern on your c.r.o.?

Do as much of your testing as you can on a dummy, OM, and when you must test on the air, give your call. You may not have meant it that way, but what you did yesterday afternoon sounded like deliberate flouting of the "regs." coupled with a deliberate attempt to fool the monitoring station. Don't do it, OM! Whether you mean it that way or not, it's a pretty poor show. There's no room on the Ham bands for the anonymous signal.

—73, VK6WZ.

FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

NEW SOUTH WALES

Activity generally on the v.h.f. bands has been mainly confined to the 144 Mc. band. A direction finding field day was held and won by 2AAA under the guidance and control of 2OK.

The annual election of officers took place with the following results: 2ANF, Chairman of Group and Country Liaison Officer; 2AOA, Vice-Chairman and Convenor of Management Committee; 2AJZ, Secretary; 2HL, Field Day Organiser; 2OA, Contest Organiser; 2MQ, Publicity Officer; 2HL, 2OA and 2MQ, also constitute the Management Committee; 2WJ, 580 Mc. Co-ordinator.

The chairman, 2ANF, has just spent four weeks in Forbes during which period he inculcated a little more enthusiasm for the v.h.f's. among the country Hams. During his trip he visited the following stations: 2BT, 2TA, 2WH, 2NS, 2APP and 2II, also met 2GU, 2AMR and 2AEL. It was made quite evident that the activity and enthusiasm in the Western and South Western Zones of N.S.W. are quite high and with the spate of building going on, some very reliable inter-country contacts are assured.

50 Mc.: Activity somewhat lower than usual with 2ADT, 2RU, 2VW, 2NP and 2HE among the most consistent.

144 Mc.: Most activity has been confined to this band with some outstanding contacts between 2WH, at Forbes, and 2ANF, 2ATO, 2AJZ, and 2ABB, all of Sydney. 2ANN, also of Forbes, established his first contact with 2ANF of Sydney. 2NS and 2WH are heard most consistently in Sydney during the evenings. 2NS is building a new final and cascode converter. 2WH also building a new cascode converter. 2GU of Gosford is now on 144 Mc. and puts a good signal into Sydney.

580 Mc.: 2HL, 2VW, 2AJZ, 2DF, 2ABZ and 2WJ most active on this band with 2VW trying a new many-stacked co-axial array.

At the last V.h.f. Group meeting it was proposed to conduct a Statewide Field Day Weekend (Eight Hours' Day, October) in co-operation with the Gladesville Radio Club with all Sydney stations and country stations out on the major mountain tops. In this respect, a group headed by 2HL with 2NP and Cec Cronin in the party went to Barrington Tops, many miles north of Sydney and succeeded in making contacts with Sydney under the most trying conditions.

VICTORIAN V.H.F. GROUP NOTES

Results of the Field Days Contest are as follows—Portable Stations Section: 1st, 3GM, 238 points; 2nd, 3ACH, 214 pts.; 3rd, 3FO, 186 pts.; 4th, 3JO, 106 pts.; 5th, 3AJI, 70 pts.; 6th, 3ABA, 60 pts.; 7th, 3ADU, 28 pts. Home Stations Section: 1st, 3ABA, 45 pts.; 2nd, 3ADU, 29 pts.; 3rd, 3AZK, 5 pts.

3GM receives a 2E26 donated to the Group by 3XA as the prize for the portable section, and 3ABA receives an order to the value of £2/10/-. As will be seen from the foregoing, only ten logs were sent in, whereas more than three times that number of stations participated and it was expected that many more logs would have been received. It appears obvious that the majority of stations have no interest in Field Day Contests and it is unlikely that any more will be arranged.

The attention of the Group has been directed towards arranging its exhibit at the forthcoming Exhibition and a committee comprising 3ABA, 3AJG, 3XA, 3ALZ, 3AHD, and 3JO has been formed to handle all the necessary arrangements. This committee has met and some plans formed, but suggestions are always welcome and a need exists for some equipment for display and some assistants to man the stand during the Exhibition. All offers of help would be greatly appreciated and should be directed towards the committee members.

Equipment promised so far includes a 100w. Tx for both 144 and 50 Mc. and a crystal controlled Rx for 144 Mc. A turnstile antenna for each band is being made and enough co-ax lead to feed them has been promised. A 50 Mc. converter or receiver is needed for the complete working model as well as various other pieces of equipment for display purposes.

Ray 3RJ had an interesting contact on 20 mx recently with Russ 9XK, and kindly passes on the following news. Russ expects to be returning to Melbourne about next August when he no doubt will resume his old call of 3XK. His initial contacts from Papua with each State on 50 Mc. during the last DX season were VKs 4BT, 3UI, 2WH, 5MK and 7LZ. Unfortunately no luck with VK8. The North Eastern Zone certainly led the field for Victoria, as the first two VK3s contacted were 3UI (twice) then closely followed by 3APF. We hope that Russ may see his way clear to come along one evening and tell us some of his VK9 experiences.

WESTERN AUSTRALIA

50 Mc.: Only ones active are 6HK, 6GB, 6DW, 6FC, 6BO, and 6RK. 6GS is threatening to come back on the band. 6FC has a very nice array on 50 and 144, but is troubled by some noise which seems to be coming from the power transformer at the end of the h.v. line from Marrogin. 6HK's new 834 final nearly ready to go.

144 Mc.: 6AG, 6OR, 6KW and 6WT have been on of a Sunday evening. I believe that they have altered sked time to 8 p.m. Also believe I heard 6JS. 6DW has put in a new tank circuit and has silver plated same. 6GB is talking new beams for this band. A couple of the new QQE06/40s have found their way into some shacks. One found its way into 6BO's but was taken away again with loving care! Still it was good to have seem one. A new lining in 6HK's shack should make Don feel warmer during the next few months. Home comforts indeed, a lined shack and a pair of 834 radiators!

50 Mc. W.A.S.

Call	Certificate Number	Additional Countries
VK2VW	9	3
VK2WJ	13	3
VK4RY	2	2
VK4HR	4	2
VK5LC	1	1
VK6DW	3	1
VK3PG	5	1
VK3RR	6	1
VK3HT	7	1
VK3AEZ	10	1
VK3XA	11	1
VK3GM	12	1
VK3ACL	14	1
VK3ZD	16	1
VK3ABC	8	
VK3WH	15	

DX NOTES BY VK4QL*

This month, my own time on the bands being infrequent and having some leave in the Mackay area, most of the material comes from the regular contributors, some of them apparently being too inactive to drop a line this month. Please let me have your material by the 26th of the month. All sources confirm that the bands are very flat and not much DX has been about. The main interest to DXers has been the release of the 21 Mc. Its general release to all continents is in doubt at the present time, as some have heard and worked the odd European, but a DL told me the band had not been released over there, so maybe those heard are not there with official approval. The band survey, with stations worked *, and times in G.M.T (z time):—

3.5 Mc.: 4XJ had a listen on this band (28 Mc. must be bad eh Les?) and heard a few KH6, KH6ABY being S7. 7EK still unable to do anything better than VK and ZL on this band. Why not make a sked with KC6QY Ray? He uses the band.

7 Mc.: The notable absentee has been Radio Pakistan, which leaves quite a part of the 1.2. end of the band free for any possible DX. My own observations have shown the band useless for VK or DX contacts. 2AMB has been giving the band some attention and was rewarded with HH2FL and VR4AF. 3CP did not have a very successful month, hearing plenty, but not being able to raise them. Athol lists VR4AF*, MD5GO*, VQ4HJP*, VP6AA*, KP4CC*, GC3CNC, ZE3JP, VQ2GW, TA2EFA, FT9GX, ZE3K, TA3AA, CT1DJ, HL1AA, HK4DF, HH2FL, so it's there if you can make it. Athol put his 7-watter on to work W2FKE. 4XJ spent some time on this band, getting amongst the North Americans, also KV4AA, VR4AF, KM6AX and VK1RG. 4QL, by a QSO with CO3BU brought his 7 Mc. country total to 70. Also logged HL1AA, KC6QY, ZS6AIA. 2OW can't hear anything decent on this band. 9XK heard chasing Vermont and Utah to complete his W.A.S. before he returns South again. Managed to get VR4AF and W0EGY/KJ6. 7RK has been hearing some good signals from North America and KV4AA. Ray heard a few Europeans one morning. KC6QY was the only other station of note for him.

14 Mc.: This band has not produced any reliability as yet. At this QTH the hours of darkness produce a dead band, but there has been some slight but erratic improvement in the afternoons. One morning opening to Europe was observed. 2AMB managed two new ones in ZC4XP and MP2AA. Heard 3CX madly calling EA9DC. 3CP heard some South Americans at 2200z on 13th May. Also heard FB8ZZ and FI8AB in a long QSO early one evening. 4QL did not do much good and lists EA9DC, YS1O*, MI3LK, EA6AF, EA8BM, KV4AA*, KV4AX. All these in the afternoons and at poor strength. 7EK finds this band improving, but erratic in the afternoons. Lists TI2PZ, KH6PA/KB6*, FI8AB*, EI4G, EI2T. Said he is doubtful if there is an active station in Zone 38. Keep listening Ray, you never know. 9XK landed SU1AD*, EK1AO*, FK8BC*, ZC2MAC*, VQ8CB*, KG6IG* (Bonin Island).

21 Mc.: For quite a few, this band has been watched most closely in an attempt to see how it behaves, but generally everybody has been disappointed. No stability and sudden disappearance of the stations in QSO. 3CP and 7RK reaped little reward for their labors. 3JE found the opening day OK and got across to South America OK. Some of the prefixes worked are W, VE, KH6, KG6, KC6, KG4. 3CP has reached all Ws except W8. The general opinion is this will be a good band when conditions improve.

28 Mc.: 7RK and 4XJ found little to hold their attention on this band.

The QSL situation has brightened the clouds for some. 2AMB very pleased with one from ZD6DU and 2OW's stocks went up with PK4DA, ZS1BM, KG4AF, PJ1UF, HS1SS, and KX6AB. 4EL very pleased with one from FF8AG and VK1BS. 4QL improved his with MI3SL, MI3LK, VK1BS, ZS3X, F9QV/FC, ZC4XP, ZC4KN, FF8AG, FY7YB, and ZS3K, some for 7 Mc. 7RK: FK8AA, HG9AT, GW3ZV, CO2OE, KR6FK, PJ1UF, EQ3FM, OX3MG (1946).

The gen section is a bit vacant, but KV4AA helps out again. For those who are not aware, EA9DC is operating from Ifni, and is possibly going to Rio de Oro in July. FO7AW, who is HB9AW, is on from Clipperton Island. ZC2MAC on Deception Island does not seem to be heard in VK, but is apparently on the band round 1300z. 9B3AA may possibly be heard soon signing LZ3AA. Believe a VK3 has his QSL.

The thought for the month comes from 7RK's watch on 21 Mc., and is: "Because we have a new band, it's not open season to break the Gentlemen's Agreement, the dividing line being 21,150 Kc."

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* Flt./Lt. F. T. Hine, No. 10 (G.R.) Squadron, R.A.A.F., Townsville, Queensland.

DX C.C. LISTING

PHONE

Call	No.	Ctr.	Call	No.	Ctr.
VK3EE	10	163	VK4WF	16	121
VK4HR	12	160	VK4JP	8	114
VK3JD	1	156	VK3AWW	14	113
VK3BZ	3	154	VK4DO	20	109
VK5RU	2	152	VK4RW	23	104
VK4KS	9	152	VK5MS	24	104
VK6KW	4	145	VK3ADT	15	102
VK3LN	11	141	VK3AHA	15	102
VK4FJ	21	136	VK6PJ	19	101
VK6DD	6	126	VK4RT	22	101
VK5JE	7	123	VK3IG	8	100
VK4WJ	17	122	VK3GG	18	100

C.W.

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	6	200	VK4RP	11	128
VK4HR	8	183	VK3JE	21	124
VK3FH	15	177	VK3YD	27	123
VK4EL	9	167	VK3EK	3	122
VK2EO	3	153	VK3JI	25	118
VK3CN	1	151	VK3PL	38	117
VK5SA	25	150	VK3UM	13	116
VK3CX	25	150	VK7LJ	24	114
VK4FJ	29	150	VK4DA	7	113
VK3VW	4	149	VK7LZ	17	112
VK2QL	5	142	VK4RC	13	107
VK6RU	18	141	VK3YL*	39	106
VK5RX	28	140	VK2YC	34	103
VK3KH	10	138	VK3HT	37	103
VK5FH	31	134	VK3APA	14	101
VK5BO	33	133	VK3NC	19	101
VK2GW	16	132	VK3OA	33	101
VK4DO	20	129	VK7RK	22	100
VK3KK	30	128	VK3AEZ	35	100
VK4QL	36	128			

OPEN

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	4	213	VK3AWW	45	115
VK4HR	7	206	VK3JA	43	114
VK6RU	8	166	VK3ADT	14	113
VK3JE	12	180	VK4RW	52	113
VK4FJ	23	173	VK3PG	47	111
VK3HG	3	171	VK3MM	49	111
VK3DI	3	170	VK4RC	21	110
VK3KK	1	167	VK3ZB	34	110
VK4EL	10	167	VK3ZC	25	108
VK4KS	24	167	VK3YL	11	106
VK6KW	13	165	VK3AWN	35	105
VK4DO	15	157	VK3VN	18	104
VK3LN	29	144	VK4UL	27	104
VK5FL	28	143	VK6PJ	44	104
VK3MC	5	139	VK5PW	50	104
VK3OP	19	137	VK2HZ	17	103
VK6DD	22	136	VK7KB	30	103
VK2ADE	28	133	VK2TI	37	103
VK3AHA	9	128	VK3HO	38	103
VK4WF	40	128	VK6DX	42	103
VK2AHM	20	125	VK7RK	31	102
VK2NS	16	123	VK4TY	35	102
VK3HT	41	123	VK9GW	48	102
VK3JI	33	119	VK5HI	51	101
VK7LZ	23	116	VK2ACX	6	100
VK3VQ	48	116	VK2TG	39	100

"OPERATION BUSHFIRE"

Throughout the district of Victoria, members of the St. John Ambulance Brigade are organising to meet the above emergency, that is an ever present danger during the summer season, Bush Fire.

It is with a view of organising some means of rapid communication during this emergency, that the Amateur Radio members have been approached. It is felt that with their co-operation all services concerned in this emergency may benefit. Transport of vital supplies and requests for personnel can be readily organised and much time can be saved by relaying of the urgent messages. Such assistance would have been greatly appreciated during the recent fires. It is felt that with a definite plan in operation, liaison between the Amateur Radio operators and the St. John Ambulance Brigade will have a very beneficial effect.

ACCURATE FREQUENCY TRANSMISSION RESULTS

New measuring equipment at the Checking Centre enables the frequencies to be given at the beginning and end of the one-minute key-down period. In the following lists the first correction given is the beginning of the period. L = Cycles low; H = Cycles high.

3500 Kc.	5 L.	8 L.
3530 Kc.	50 L.	60 L.
3560 Kc.	16 L.	20 L.
3590 Kc.	16 L.	22 L.
3620 Kc.	16 H.	12 H.
3650 Kc.	24 H.	24 L.
3680 Kc.	45 L.	52 L.
3710 Kc.	8 L.	2 L.
3740 Kc.	56 L.	68 L.
3770 Kc.	5 L.	1 H.
3800 Kc.	38 L.	40 L.

Operating Awards and Diplomas

COMPILED BY RAY JONES, VK5RJ, FEDERAL QSL MANAGER

The following list, whilst not complete, may prove of assistance to members. Australian and New Zealand Awards are not included herein.

Great Britain. **B.E.R.T.A.** Proof of contact with 25 of British Dominion Call Areas and 15 British Colonial Call Areas. Apply R.S.G.B. Charge 2/6 stg.

Great Britain, **H.B.E.** Proof of hearing above areas. Apply R.S.G.B. Charge 2/6 stg.

Great Britain, **W.B.E.**: Proof of contact with one Empire station in each of the five Continents. (North and South America counted as one.) Apply W.I.A. Charge 2/6 stg.

Great Britain, **Empire DX Certificate:** Proof of contact with 50 Empire Countries on 14 Mc. A separate Certificate issued for contacts with 50 Empire Countries on all bands other than 14 Mc. Apply R.S.G.B. Charge 2/6 stg.

U.S.A. (I.A.R.U.), **W.A.C.**: Proof of contact with one station in each of the six Continents. Apply W.I.A. Charge Free.

U.S.A., **W.A.S.**: Proof of contact with one station in each of the 48 States of U.S.A. Apply A.R.R.L. Charge Free.

U.S.A., **DX C.C.**: Proof of contact with 100 Countries since 15th November, 1945. Apply A.R.R.L. Charge Free.

Germany, **W.A.E.** (Worked All Europe): Details on request to this Bureau. Too lengthy to publish in full. Apply D.A.R.C. Charge: 10 Reply Coupons.

Spain, **Espana Diploma**: 125 contacts with EA stations including three with each of the nine districts. Since 1/1/53. Apply U.R.E., Madrid. Charge: Free.

Italy, **W.A.I.P.** (Worked All Italian Provinces): Contact with 60 of the 93 Italian Provinces. List held at this Bureau. Since 1/1/49. Apply R.C.A., Ravenna. Charge: Free.

Cuba **Worked Cuba Award**. Contact with 7 of the 8 radio districts of Cuba. List held here. Apply W.I.A. Charge: Free.

Brazil **W.A.A.** (Worked All America). Contact with 45 countries in the Americas. List held here. Apply L.A.B.R.E., Rio de Janeiro. Charge: Return Postage.

Denmark, **OZ-C.C.A.** OZ Cross Country Award: Contact with 15 of the 25 radio districts in Denmark on points basis. Details held here. Apply E.D.R. Aalborg. Charge: Five International Coupons.

France, **D.U.F.**: Four sections. Contacts with stations of French Union. (1) 3 Conts., 5 Countries. (2) 4 Conts., 8 Countries; (3) 5 Conts., 12 Countries, (4) 6 Conts., 16 Countries. Each to include Europe as one of Continents. Sections may be obtained progressively. List of Countries held here. Apply W.I.A. Charge: Free except 4th section which is a medal; fee 700 Francs.

France. **D.P.F.** Contacts since 1/1/51 with 16 of the 17 Provinces of France. List held here. Apply R.E.F. Charge. Return Postage.

Chile. **W.A.C.E.**: Contact with each of the seven radio districts of Chile. Apply R.C.C., Santiago. Charge: Free.

Sweden. No Title. Post-war contact with each of the seven radio districts of Sweden. Apply S.S.A., Stockholm. Charge: Ten Reply Coupons.

British East Africa. **W.E.A.** Contact with one VQ3, one VQ5, and three VQ4 stations in any year (1st Jan. to 31st Dec.), gives entitlement to an Annual Certificate. Five of these Annual Certificates plus one VQ1 contact makes the final award (W.E.A.). Claimed to be something special in awards. Apply R.S.E.A., Nairobi. Charge: 5/- each Annual Certificate, and 5/- fee for W.E.A.

Canal Zone. No Title: Contact with ten different KZ stations. Bigger and better Certificate for contact with 25 different KZ stations. Apply C.Z.A.R.A. Charge: Free.

U.S.A., **W.A.Z.**: Contact with each of the 40 radio zones of the world. Apply "CQ." Charge: Free.

Applicants for any of the above awards are requested to ensure that all conditions have been fulfilled before application is made and that the prescribed fee is enclosed with the application. Registration of all verifications is recommended. It is also essential that the application be made direct to the authority listed for each award.

In the past many applicants have taken the easy and oft-times cheap way out by forwarding applications for overseas certificates to the W.I.A. While full information on any award will be given to any applicant, the handling of any application, other than those listed above as W.I.A., cannot be undertaken. Your officials, who gratuitously give their time and energy to Institute affairs, have sufficient legitimate duties to perform, and all misrouted applications will, after publication of this list, be returned to the senders.

SUBSCRIPTIONS

● Please pay your Subscriptions PROMPTLY when due. Failure to do so may result in the loss of valuable issues of "Amateur Radio" High costs of production make it necessary to limit the number of extra copies printed each month.

VK5WI STAND AT EXHIBITION

TECHNICAL DESCRIPTION

Bands of Operation 7 14, 50, and 288 Mc

7 and 14 Mc. Transmitter RF 6V6 xtal osc., 807 buffer (doubler on 14 Mc.), and 813 final. Audio—crystal mike to 6SJ7 and 6J5 speech amplifier, 6V6 driver, pair 813s in Class B as modulators. Plate and screen modulating 813 final amplifier.

This transmitter was a converted Philips' broadcast transmitter and was converted by members of the Exhibition Committee. It made a very attractive piece of equipment and there was much favourable comment from members of the public. The transmitter was capable of running inputs up to 300 watts, but to comply with Regulations, the input was reduced to 100 watts and ran at this point for the duration of the Exhibition.

Receiver. AR7 for both 7 and 14 Mc.

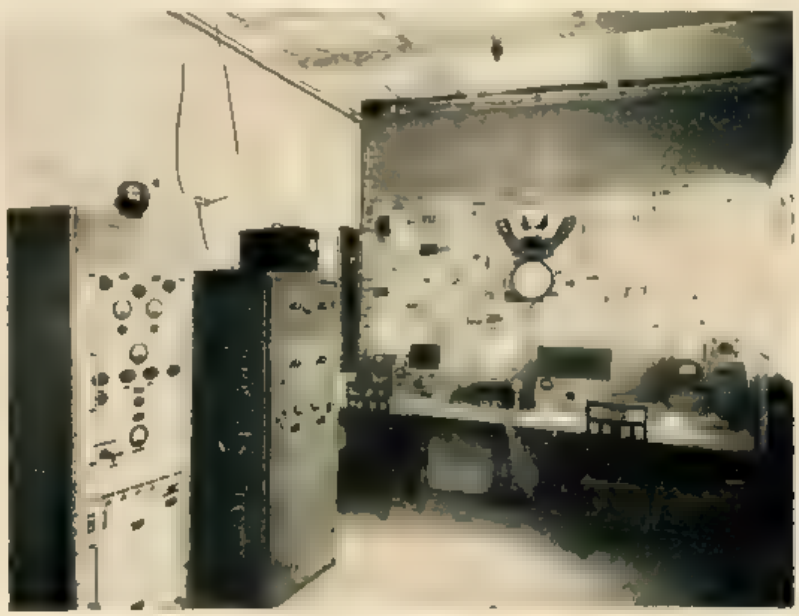
Antennas: 7 Mc.—The popular 88 ft. "all band" antenna, fed 23 ft. from one end with 300 ohm ribbon. 14 Mc.—Two element close-spaced rotary beam mounted on a 30 ft. steel tower. This was also fed with 300 ohm ribbon to a suitable quarter wave matching section.

50 Mc Band Transmitter. R.F.—VT52 xtal osc., 807 doubler, 807 doubler, 834 doubler, pair p.p. 834s final amplifier. **Audio**—Crystal mike to 6J7, 6J5, pair 6J5s speech amplifier, pair 6L6s sub-modulator driving pair TZ40s in Class AB2 modulators. Plate modulating the pair of 834s. Power input, 100 watts. **Receiver.** Crystal controlled converter feeding into another AR7 receiver (shown in the photograph at the far left of the operating table). **Antenna:** Four element rotary beam, mounted above the 3 element beam on the 30 ft. steel tower.

288 Mc.: Receiver only, consisting of 6J6 super regen detector and 6J5-6V6 amplifier. Installed for intercom. purposes only and for use in case of emergency. The antenna was a 3 x 3 beam.

Link Stations: In practice, it was found that very few signals, other than powerful locals, could be received direct due to noise generated by scores of motors driving the many working exhibits and extensive use was made of official 50 Mc. link stations in the suburbs. Stations performing official link duty were VK5GL, VK5HD, and VK5LW where signals were received on 7 or 14 Mc. and beamed to the Exhibition on 50 Mc. It was found that these strong signals completely "killed" the noise and reception was as good as could be expected at any average suburban location. The 288 Mc. link was used on two occasions where there had been a temporary breakdown on 50 Mc. with similar results.

Public Address System: A small public address system was installed with a loudspeaker outside the building. The mixing circuits (seen between the two AR7s in the photograph) allowed operators to relay to the public both the incoming and outgoing signals in order that they may hear both sides of the conversation. There was also a third microphone enabling operators to make announcements to the public.



Other Equipment: Oscilloscope—Seen on top of the 7/14 Mc. transmitter. **Frequency Meter**—Seen on extreme right of operating table. **Panoramascope**—Seen on top of the Frequency Meter and beneath the 288 Mc. receiver.

Duration of Exhibition: The Exhibition opened on 7th March, 1952, running for eight weeks, closing on 3rd May, 1952. During that period, operators made 576 contacts, a number of stations being worked several times. The following analysis (excluding VK5) may be of interest to readers. The figure in brackets indicates the number of individual stations contacted in that District. VK1 (1), VK2 (63), VK3 (41), VK4 (19), VK6 (12), VK7 (10), VK9 (2), ZL (7), VS1 (2), VS7 (1), KL7 (1), KR6 (2), KH6 (1), KG6 (1), JA2 (3), JA5 (1), HB9.MM (1), W4 (3), W5/VK4 (1), making a total of 171 individual stations excluding VK5.

QSL Cards. Special souvenir QSL Cards were printed for the S.A. Division by the S.A. Government Tourist Bureau and a card will be forwarded to every station contacted.

FEDERAL, QSL, and DIVISIONAL NOTES

Federal President: G. GLOVER (VK3AG); Federal Secretary: G. M. HULL (VK3ZH); Box 2611W, G.P.O., Melbourne.

FEDERAL

IT'S FREE!

By courtesy of Mr Philip S. Rand, W1DBM, of the Laboratory of Advanced Research of Remington Rand Inc., South Norwalk, Conn., U.S.A., a quantity of booklets on Television Interference have been shipped to the Wireless Institute of Australia on application for free distribution to members.

The booklet consists of over 100 pages of the most comprehensive articles on t.v.i., and its causes and cures, that has ever been seen in this country under the one cover. Mr. Rand has excelled himself as editor in producing a complete up-to-the-minute booklet to assist the amateur and engineer to avoid the pitfalls of t.v.i. and how to go about curing the trouble when it exists.

Although Amateurs in Australia are not confronted with these problems as yet, the Amateur with forsight will provide NOW for the elimination of television interference insofar as his transmitter is concerned because as sure as the sun rises in the east and sets in the west, the Australian Amateur will, in the not too far distant future, have to contend with the t.v.i. problems that beset the American Amateur and are at present causing great concern to the British Amateur.

If you as an Amateur member of the W.I.A. are interested in meeting these problems before they reach out and "snag" you, write in to the Federal Secretary, W.I.A., Box 2611W, G.P.O., Melbourne, enclosing a 4d. stamp to cover postage and a copy will be reserved for you and sent on when the shipment arrives. Applications will be filed and numbered in strict sequence as received and copies will be posted out in this order until supplies are exhausted, so be early.

EMERGENCY NETWORKS IN CIVIL DEFENCE

If you have been following the activities of Federal Council and Federal Executive over the past year or more, you will know that your Divisional Council has a mandate to forward to F.E. a chart showing the organisation set-up of emergency communications in your Division. This information is required for the Minister for Civil Defence so that he will know where the Amateur networks can be drafted into the civil defence requirements.

You have already been told in these columns of the interest displayed by the Minister in the potential worth of the Amateur Movement in any civil defence scheme, and his express desire that he be given a document outlining the complete Amateur system as at present in existence in the Commonwealth of Australia.

F.E. cannot complete this document if you—the man with the equipment, the inclination for emergency communications, and the desire to serve your country during times of emergency—do not advise your Division regarding what equipment you have on hand, the area in which you could operate, the network in which you could participate as an active operator, and details of future equipment you intend to construct that could be useful for communications services in the field at a moment's notice.

Admittedly, defence projects have been somewhat curtailed, but this does not forbid the Institute from continuing with its present emergency communications networks and expanding them to encompass the entire country twenty-four hours a day if necessary.

This is the greatest opportunity the Australian Amateur has had offered to him to show the very highest authority what an Amateur communications network can do when called upon to function. But if you don't initiate the greater envisaged scheme by taking an active interest in constructing suitable equipment and having it ready for immediate service, you will find that other emergency communications systems will be doing the job rightfully belonging to you.

Your Federal Council knows, you know, in fact everybody knows, that you as an Amateur will be ready to offer your services in any capacity. But that is not good enough! Besides your services you must be ready to offer your equipment too!

Remember, the Amateur's greatest chance to maintain a wartime Civil Defence Network in conjunction with other Services lies in the field of v.h.f.

Already some Divisions have recognised this fact and are encouraging Amateurs all over the country to interest themselves in v.h.f. activities, asking them to get on the air on the higher frequencies, organising field days in attempts to pass messages over great distances by relay stations at strategic points throughout the States. Some of these networks are functioning NOW and growing in strength every day of every month. But many more are wanted, especially in the country areas.

The future of emergency networks lies in your own hands, the privilege of continuing to conduct your unique hobby whilst serving a national need is tightly linked with it. Because you may say you are away out in the bush and cannot be heard on v.h.f. is fast becoming a myth. You—the country man—are the key man in a nation-wide network.

Do today what you will criticise others for having lost tomorrow!

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FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Johnny Jones, VK3RG, who has been in England since July, 1951, attending R.A.F. Staff College, is due back in VK in July. Shortly after his return it is likely we will hear him under a VK2 call sign.

A Japanese correspondent states that by the end of the current year Japanese stations will be back on the air.

The Danish Society E.D.R., which is presently conducting its 25th year Jubilee celebrations advises visitors that the "grand finale" of the festivities will be held on 23rd August at "Haandvaerkerforeningen" in Copenhagen. Vis-

itors will be welcome, and are advised to get in a little practice on how to ask for a rail or ferry ticket to the above locale.

Many attractive and ornate cards have passed through from HZ1TA, H.R.H. Prince Talal Al Saud with QTH: The Royal Palace, Ryiadh, Saudi Arabia. A real posh job in gilt on a waterweave board. A spare is on hand addressed to VK3AW. Rightful owner can have same on application.

The R.S.S.R. Radio Society of Southern Rhodesia) advise that their QSL Bureau QTH has been changed from Bulawayo, to Box 2377, Salisbury. This society, which now has almost 100 members, expects to be accepted into the I.A.R.U. very shortly.

The QTH of VK9GM is George Meaton, Dept. Civil Aviation, Norfolk Island.

Russ Coleston, VK9XK and VK3XK, expects to return to Melbourne in August. During his comparatively short tour of duty in Papua, Russ has run up 120 countries. In the recent B.E.R.U. Contest Russ was much sought after and ran up 1,500 points in the Senior. On 50 Mc Russ contacted all VK States except VK6.

Bob Black, VR4AF and VK2QZ, writes interestingly under date of 30th May, from Savo Island, British Solomons, to where he moved from the Trobriands. At the latter location he signed VK2QZ/P and VK2QZ/P/9. He states "This delightful tropical island is actually a volcano and feels like it. The call VR4AF is a portable station which will be operated on various islands around the Solomons. I am visiting little-known Polynesian atolls in the group which are visited by white men about once a year (Savo is Melanesian). The malaria hunt is still on, but the end is in sight—I mean our return to VK2. We have another five weeks to go. Conditions here are pretty good and the old Type 3 Mark II. is doing nicely with a car battery. Although QRM from Ws and expatriate Ws in the Pacific is heavy, I manage to keep my skeds. ZLs are very strong, but the VKs not good on the north side of the old volcano. The QRN in the tropics is not a patch on the QRM in the city on v.h.f. bands, but the QRM and bad manners of the impatient leaves a lot to be desired. I worked 250 contacts from the Trobriands—no Europeans or Africans—but was not out after DX. Enroute to the Trobriands I met Geoff VK9GW, and Maurie VK9MT, also Russ VK9XK at Samarai. He has a lovely site on a hill. One contact made was with a research station on an ice flow at Juneau, Alaska. Have made a few 3.5 Mc contacts both from the Trobriands and from here—all ZLs, but have heard Ws. The antenna in use here gets itself tied to the top of a coconut palm at the other end. I don't use an earth."

From the D.A.R.C. "Please notice to your information" German authorities have issued all DL calls to German nationals (DL1, DL3, DL6, DL7 Berlin), including DL3ZZ. Reserved for Allied Forces are DL2, DL4, and DL5. Not in official use is DL8. The calls will begin with DJ1AA and will be continued as usual."

A young lad—the son of WN4TNG, of 135 North Stonewall St., Rockhill, South Carolina, U.S.A., seeks a pen pal in Australia. His name is Ed Sanders, and he is 12 years of age and hopes to get a license of his own very shortly. You married guys pass this on to your hopefuls.

Felix Franchette, ex-FK8AC, at present on furlough in France, writes under date of 20th May, to state he arrived safely after a sea trip of approximately two months. Felix states that it is almost certain that he will return to FK8 for a further tour of duty commencing 1953. Hopes to get an F license to cover his year in France, but presently is rehabilitating himself and family and trying out a new 11 h.p. Citroen. Notices a big upward trend in the cost of living in France from his last home visit.

Bill Storer, VK2EG ex-VK1BS, has got solidly behind the job of replying to VK1 QSLs—so much so that he will not be able to get on the air as VK2EG for some time and until he shakes down into a permanent address. Writing under date of 31st May, Bill makes some enquiries as to certificates and states that a couple of overseas DX men have made enquiries of him regarding ex-VK1VU. Requests my assistance regarding the latter!! I refer you to previous pars in these notes Bill. I have washed my hands of this guy as a hopeless task.

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NEW SOUTH WALES

The May meeting of the N.S.W. Division of the W.I.A. was held at Science House on the 23rd under the chairmanship of the President, Mr. John Moyle. The office-bearers for the current year, including some appointed earlier, were announced as follows:—President, 2JU; Vice-Presidents, 2GW and one to be elected, Hon. Sec., 2EO; Treasurer, 2RX, Assist. Hon. Sec., 2OA; Class Sec., 2AYE, Class Supervisor, 2BF; V.h.f. Liaison Officer, 2XU; 2WI Co-ordinator, 2JU, QSL Officer, 2YC, Bulletin Despatch Officer, 2PV, Div. Traffic Manager, 2GW, Div. Sub-Editor, 2AYP, Hon. Auditor, 2AND; Country Liaison Officer, 2RA, Fed. Contest Committee 2RA, 2XU, and one to be appointed, to take the place of the late Wal Ryan.

The President read a letter of sympathy to Mrs. Wal Ryan sent on behalf of the Division following the death of her husband, VK2TI, from a stroke on the previous Friday. Wal's funeral was attended by a large number of people including more than fifteen VK2 Hams, as befitted so outstanding a member of the Division. The meeting stood in silence for a minute as a mark of respect to one who worked untiringly for the W.I.A. for so many years.

The Adam's trophy winner was announced. It will be remembered that this was donated for the best article in "A.R." for the year emanating from a member of the N.S.W. Div. It goes this time to 2DG for his article on the "Q" Multiplier.

Ratification of agenda items passed at the Federal Convention was set down as the main business of the evening and ratification or otherwise generally followed the original voting instructions given to the delegate (Vaughan Wilson) at a meeting before the Convention.

The meeting was then opened for general business and amongst the matters discussed were the following: A notice of motion by Wal Nye that all benefits of W.I.A. membership, including "A.R.," cease forthwith for unfinancial members. This brought forth some lively discussion which promises to be even more lively at the next meeting when the motion will be put. The question of pulse modulation was brought up by 2ASR. The reason for its deletion from Amateur privileges in the recent circular from the P.M.G's. Dept. opening the 21 Mc. band will be followed up.

The lack of Amateur co-operation in checking the accuracy of the monthly prediction charts was raised. These charts are supplied on the understanding that data would be forthcoming from the Amateurs and it was resolved to organise the necessary co-operation.

What proved to be the most interesting item of the evening was an impromptu talk by two visitors fresh from Macquarie Island, Bill Storer VK1BS and Zeb Jeffrey a radiophysicist. Once they were set going by a few leading questions they had the meeting really interested and everybody was disappointed when the meeting had to be terminated owing to the lateness of the hour. We could do with a continuation on some later date. (2GW).

WESTERN SUBURBS

2AAB has acquired a bug. 2AXZ is now heard with a fine signal, the new reg. power supply is doing a good job. 2ABO operates all bands except 80, new antennae being designed still. 2ARF busy on 144. 2AGG on 144 again, soon be operating other bands. 2AGX occasionally misses monthly meeting, nevertheless quite active. 2XH is on 20 a little more often. 2NJ gets around on the odd evening, also as does 2APT, but the lack of DX!!! 2ANC a busy boy, what with the beam and the junior op's measles. 2AHU heard on rare occasions—domestic duties. 2AIA, 2AAH, 2ACD and 2ARA all busy on the antenna problem. 2QP heard quite often, also interested in beams but time is at a premium. 2ID heard on 21 Mc. with a nice drop of signal, as is also 2AWU, 2ABO and 2AAB. 2OQ not heard this month, possibly still busy with the house. 2FM has a beam almost on the ground, but works DX. 2DW silent, busy getting garden into shape.

The Burwood Radio Club is a virile organisation which meets at Greenwood Hall, Liverpool Rd., Enfield, each Tuesday night. It deserves your support, all will be welcome, and bring your friends along too.

2AIR still resident in VK4, has got himself engaged, congrats. Alan. 2IV attended to mod. with desired result. 2JT now operating the wheel of a car, too busy for Ham Radio. 2AER and 2HX heard infrequently these days, must be a reason. 2AGU is in the bush. 2AMJ was heard again recently, friends will be pleased to learn that Jack is getting around a little again on the two legs, we hope it will be even more speedy Jack. 2BI, an old timer we feel, heard regularly after quite a spell, nice work Roy. 2BD off to VK7 on leave, erecting beam.

NORTH SHORE ZONE

Harold 2AQP preparing ground for erection of beam. Nice to hear John 2ANF again on the air from his home QTH after a month's holiday in the Western Zone where he has given a real kick to v.h.f. activity in that area. Ray 2YM has moved into new home and pleased to find that the location is not as bad as was expected. Brian 2AND expects to be active on 144 Mc. soon, starting the right way with a cascode Rx. Horrie 2HL heard on 40, had mod. trouble, so is building a c.r.o. 2AYP has had visitors from North Coast, Q'land and Vic.

Percy 2QV dropped in for a yarn on his way to Sydney on business (what a man!). Jeff 4XP put in a day looking over gear and yarning about everything from radio to photographs. Dropped in to say good bye with YF on his way back to VK4. Geoff 3AGF holidaying in Sydney and looking forward to trying 2AYP's new 20 mx beam. Lyell 2GW the only one in this area heard on new 21 Mc band working Ws at the time. Dave 2EO only heard at broadcast time these days on 40 mx. What has happened to the beam Dave?

Of interest to most Hams: Bob Black, VK3QZ, is now operating under new call VR4AF and is on most nights on approx. 7030 Kc. Understand Bob will be a new country to most.

SOUTH WESTERN ZONE

Harold 3GU at Canberra was heard by John 2AMV at Forbes on 144 Mc., nice work John and Harold. 2AKF heard on 80 with good sig. Stewart 2PL active on 40, has Command Tx going now, having trouble with mod. 2APZ, at Leeton, is a new call in this zone, putting out a good signal with 15w. input, hearty welcome to the ranks of Hams, Ray. 2OY active on 40, 2RS heard testing on 80. 2AJO active on 40 and 80, building Tx for 20, 15 and 10 mx. Jim 2TC heard with f.b. sig. on 80. Ross 2PN heard on 40 mx, says it is too cold to work 144 Mc. portable at present. Geoff 2BQ on 20 and 40 mx c.w., getting among the DX, also trying 21 Mc. using a Type 10 and v.f.o., 6AG7 tripler, 807 buffer and 834 p.a.; has an 832 p.a. on 2 mx but says the hills are too high at Tumut unless one is portable.

2RM active on 40 and 80 mx. The club at Duntron has about 25 members at the moment. The Tx runs about 55w. on 40, and 80w. on 80 mx. The other gear used is an 11 tube super, also 6 tube super. Antenna 134 ft. long and 40 ft. high. There is also a workshop fitted out with all the necessary test gear plus a 3-inch c.r.o. and freq. meter. Gerry reports that accurate frequency checks will be gladly given to anyone requiring them. 2OJ, Albury, heard with an f.b. signal on 80 mx. 2APP heard with a good signal on 40 mx.

NORTH COAST AND TABLELANDS ZONE

Doc 2LH had a pleasant stay in Canberra where a minor hamfest was held among the local together with John 2ANF and Hugo 2WH. 2ADE, 2UC, and 2AHI on 6 mx with 2LR rapidly assembling equipment. Most North Coast boys are active on 80 mx and many daylight contacts are now being made. Sigs on 80 mx at night have been heard from 2LH, 2LR, 2UC, 2AHI, 2RK, 2JK, 2AHH and quite a few others. Geoff, junior op of 2LR, spent a pleasant time with Jim 4HZ, has developed an enthusiasm for portable operation. Crieff 2XO had a pleasant holiday trip visiting many shacks and finished with a spell at Urunga with Jack 2ADT. "Blue" 2AEU had a pleasant trip to North Queensland, and a visitor to Urunga was the brother of Rod 2ACU, whilst 2FH is planning a holiday at Coff's Harbour. 2PA and 2JK are proposing to carry out portable tests on 144 Mc. and results are awaited with interest. Alf 2UC had a visit to the city but was glad to get back to the bush. Quite a few contacts have been made on the new 21 Mc band, Peter 2PA being the first to be on.

VALE—WAL RYAN, VK2TI

On 16th May of this year, Wal Ryan, VK2TI, joined the ranks of silent keys at the age of 47 years. His record of service, extending over nearly 20 years, virtually traces the progress of the N.S.W. Division during that period. It is difficult to overestimate the value of his work during some of Amateur Radio's most difficult years.

When Wal entered Divisional affairs about 1935, the name of the W.I.A. was held elsewhere, and the Division functioned as the Association of Radio Amateurs. Wal's ambition was to recover the Institute's name for the Division which he did in 1936. He first showed prominence in the affairs of the old established Waverley Radio Club, and before he withdrew from Institute affairs on medical advice in 1946, he had held the posts of Divisional Secretary, Federal Councillor, Federal Secretary, Federal President, and Divisional President. In 1947 he was elected a Life Member of the Institute in recognition of his services.

In carrying out his duties he was a terrific worker and a completely efficient one. Many will remember the fine Amateur Exhibition of 1936—probably the best ever held—and a further equally successful exhibit the following year in the Sydney Town Hall.

During the war years, when normal activity had ceased, Wal organised and conducted the Amateur Section of the National Emergency Services—work for which he was highly commended. Not only did he keep the Division functioning, but also the Federal Executive which was in N.S.W. during the war. Despite these heavy commitments, he found time to entertain servicemen at his home, including many overseas visitors.

Wal Ryan was well known on the air, particularly in DX work. He was an early winner of the A.R.R.L. DX C.C. Certificate. In 1938 he obtained W.A.C., and pre-war was one of the few Australian stations to hold W.A.S. He was always active in the A.R.R.L. DX Tests, being the leading VK competitor on one occasion. V.h.f. work was not neglected—in 1937 Wal ran a pair of 304s on 56-60 Mc. From time to time he was active on every Amateur band.

From his "retirement" he emerged in 1951 to be Chairman of the Jubilee Contest Committee, and organised probably the best VK-ZL Contest ever held. In work of this kind we have not seen his equal. Wal's life was a full one. For his manifold and untiring efforts we will remember him with gratitude and pride. We have never seen a more efficient administrator, and his record will stand as an example to those who follow him.

Amateurs throughout the Commonwealth extend to Mrs. Ryan and family their deepest sympathy. They feel, too, that they owe her a great deal for the part she played in helping Wal to build up his outstanding record.

HUNTER BRANCH

Despite the bad weather our last meeting was well attended, details of which have already been given over 2WI. The Newcastle Technical College have formed a radio club under Max 2OT. The Hunter Branch has offered every assistance. A.O.C.P syllabus has already been supplied by Secretary 2SF. Both Varley and President 2CS have attended meetings of the club. Lionel 2CS has completed his new double conversion Rx, happy over its performance.

Much discussion is taking place over the chain letter from our Western friends and here's hoping we can do some good. Zone correspondent, Ron 2ASJ, holidayed around Denman way, operated portable on 80 and 40 with the Type 3. 2SF is a c.w. DX man now, Varley has a new antenna-coupler which really works. Also on c.w. consistently is Tom 2ZT and Harry 2AFA, both doing well on 40 in the evenings. Ken 2KG is more active lately, been on 80 but not happy about antenna situation. 2IS on 40 phone with QRO, but has gone bush again.

2LV is busy at home but is gradually rebuilding. Phil 2ANG back on 20 with a new antenna coupler. Bill 2PJ warming the 807 plates, but not hurting them. John 2DZ building a 5-inch c.r.o. between QSOs on 20. On 2 mx the locals are burning the air across town with their Hunter kilowatts into their 7193s and big pipes. Jim 2ZC is the latest newcomer. The net now includes: 2XY, 2ZC, 2AGV, 2BZ, 2ADT and in the near future 2ASJ, 2XT and 2KG. Bill 2XT trying out various Rx's, plans a super double conversion job.

Associates Les Sparke and company are taking advantage of the code practice lessons given at the Postal Institute, which are very worth while for those interested. Stan 2UY not active, his offsider Shorty 2NX has new 813 final. Old timer Lew 2WU heard bashing 20 phone recently with a very fine signal. Ern 2FP well under way with new super rig. Max 2OT active on all bands, hasn't been able to test 10 mx beam with the poor conditions. 2YS active again, using new double conversion Rx—says "it's the shot." Associate Sid Daniels looked up VK6s on his recent holiday. Frank 2FX gave the fish a belting at Lake Macquarie.

Doug 2ADS more active on 40 since holidays. Dave 2BZ still on 2 and 6 regularly, occasionally on 40 and 20. Edgar 2MR active on 40. Geo 2AGD has yet another Rx, a double super with 100 Kc. i.f's. which is the tops. John 2XQ again settled down to work after fine holiday, visited 2HC. 2VN has been up that way and passed through Maitland and Newcastle on the way home. 2DG recently ill, busy building new shack, so may be off the air for a while. Joe 2ANL hops up on most bands when time permits. Associate Chas Hunt sold his radio business and now works at steel works, so may now have more time to get stuck into the code.

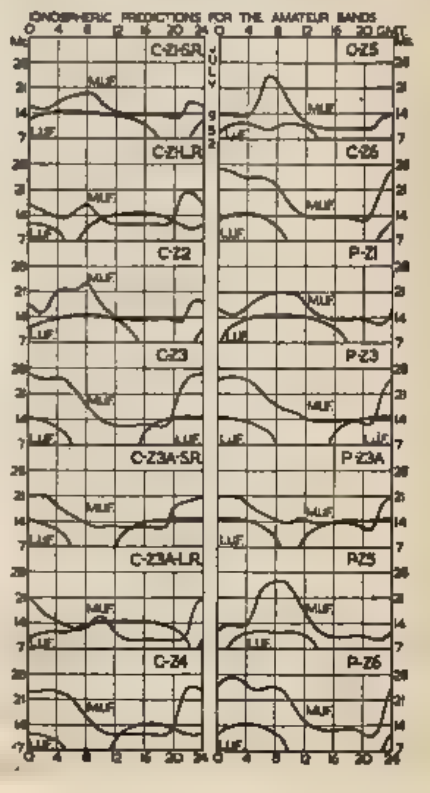
The new 21 Mc. band seems to be OK, 2TY, 2DG, 2AHA, 2ZC and 2YL have all been active. It's open every day to the States despite the winter and bad conditions, so prospects are good for the summer. Neil 2KY will be on 21 Mc. by the time these notes appear. W1BCR hadn't heard a 21 Mc. sig. gave a CQ, contacted 2AHA. Both 2AAI and 2AAM pop up on 20 phone at times. Nev 2OS has not been active of late. Norm 2ANA, like many others, is thoroughly fed up with all the Commercials on 40 and threatens to give the band away for one of the higher bands. Bill 2AX is now his own boss and work keeps him off 20. Does anyone know where 2CW is hiding, nothing heard of Bill for months. Well, cheers till next month when Ron 2ASJ will be back with you.—2AHA

Notice of Meeting.—The July meeting will be held at the Technical College, Tighes Hill, Newcastle, on Friday, 11th July, so come along. We promise you a good night's entertainment.

COALFIELDS AND LAKES ZONE

With the onset of colder weather and the falling off of conditions on the higher frequency bands, quite a number of the gang

PREDICTION CHART FOR JULY, 1952



have commenced work with the soldering iron in an effort to remodel existing gear or to make concrete some of the brain-storms of the past months. Ken's latest creation is a v.f.o. for the 2ANU shack; it runs entirely from 32 volts, both for the heaters and plates. Ken has used a pair of 25L6 tubes as amplifiers and doubler in this unit following the usual osc. (e.c.o.) and isolator. Geoff 2VU returned from holidays, busy rebuilding 50 Mc. rig into a more compact unit; heard on 80 mx.

2ADT spent a very enjoyable week at Urunga helping Crieff 2XO catch some of those famous fish, has added a single 807 to the v.f.o. which provides a 5w. signal on 80 mx without b.c.l. (he hopes). 2KF trying various arrangements on 144 Mc with varying success. 2KZ plugging away on 10 mx each week-end. Major 2RU finally got the two mx beam up, mowing them down on two. 2KR active on 40 and 2, while 2GA has been on the latter band. (To see that Cec. behaves himself I take it.) 2EH is plugging away on 80 c.w., but threatens to build a mod. Nothing is known of the activities (if any) of other stations in the zone. There is no need to be bashful chaps. If you are doing anything pass the word along or you might feel neglected.

WESTERN ZONE

The visit of John 2ANF has been a great help to v.h.f. country Hams. John's demonstrations of what a good Receiver can do, and how not to build v.h.f. gear have been invaluable. Towards the end of the month 2MQ, 2HL and Cec Cronin paid a visit to Trev in Bathurst. A bit early to say yet, but it looks as though regular contacts with Sydney will be possible on "two" as a number of Sydney stations report hearing Forbes stations. 2MQ, 2ANF and 2ATO have been heard in Forbes, and 2MQ and 2ANF have both been worked by 2WH. QSO with Bill lasted for an hour, both stations losing each other in QSB at times, and that with 2ANF lasting half an hour with copy solid at both ends.

Dubbo Hams are working among themselves on 144 Mc. and 2ACT and 2AMR are looking for outside contacts. Rod 2ACU had bad luck with a beam that wouldn't stay up, but has it fixed now, and ready to crack open the Coonamble-Dubbo path or points further out. 2AWY briefly heard on 80 mx with a good sig. Strange how many ZLs, VK3s and how few VK2s are heard on 3.5 Mc. 2WI broadcasts well received in the west and would like to see them continued. Ron 2VR, ex-Broken Hill, now at Bathurst and hear whispers of v.h.f. activity. Jack 2OF broke a long silence and showed up briefly on 7 Mc. phone. Another rare one, 2BT. I hear Bill is going to put Eugowra on the v.h.f. map shortly.

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VICTORIA

NORTH EASTERN ZONE

Sunny VK3? Well fellows such is to be will be, but if I never see rouch rain again I will be satisfied, mud, rain, more mud, oh well at least I had a good rest. Last I remember was 3JC working on 20 mx c.c. converter, ably assisted by 3UI 3JC working a few Ws, Js, JAs, VK1s and thoroughly enjoying himself. 3ALE about to become the next zone correspondent, Les has a new 6 mx beam up and the results justify his labours. 3HZ dickering around with the rig, heard Murray say the more controls to put rig on the nose the more he likes it. 3AFF having fun and games too. 3AT very silent these days. 3KR heard on 80 mx, sorry I had to run out Ken. Ex-zone member, 3DW, also a constant 80 mx man.

EASTERN ZONE

All quiet on the eastern front at the moment, judging by the lack of E.Z. sigs on 80, except on Sunday nights, when the boys dust off the rigs and enter into the bull-ring! Have just returned from a cruise over a fair slice of VK3 and VK5 with a short run into VK2, a good trip apart from the fact that it rained every day but one! However, 5WQ gave us a right royal welcome and we discovered that the west end of VK5 is not so bad! How's that, Peter? Returning home, we found that J. Pluvius has been on the job and once more. I am flood bound! It's a cruel world.

3IZ has the 348 together again—says it works too. Peter says John is still busy with the crow! 3QZ back from VK4—no dents in the new jalopy either. 3PR sporting a new vehicle too—they say the farmers have all the dough, but I wonder? 3SG rather quiet these days, he is alleged to be interested in chickens! 3SS and junior still working on 6 mx gear. 3AGF on holidays in VK4. 3ABF on 80 occasionally. 3AFG still thinking of firing up the rig. 3AMV another quiet type. 3LV a regular on 3650 Kc. with greatly improved modulation. No word from 3ABP since his transfer to Melbourne. 3ADA still at Woomera, what about a letter to him, chaps? Shouldn't have said that, but I'm a poor correspondent myself! Two of our Bairnsdale associates sat for the A.O.C.P. and I hear that they were OK on the theory but the dots and dashes trapped them. However, it looks like more QRM on 80 soon.

CENTRAL WESTERN ZONE

Henceforth and forever more be it known that the Central Western Zone hook-up will be on 3.5 Mc., in other words we have had 7 Mc., its flighty ways, and endless QRM. In future the frequency will be approx. 3578 Kc. at 1000 hours on the second Sunday of each month. 2ACI paid a visit recently to 3ARL's and after inspecting Lin's all-band final tank, decided one would have to go in the output stage of the new Tx. 3AKW now has the mobile rig in operation and it goes very f.b., tune it up well for the September Convention Bill, and clean up on the scramble.

3DP, after testing the DX, has decided to do the right thing and erect a vee beam so that the 100w rig can get a real kick-off. 2HL floored a Yank by giving him the same report when he reduced power from 1,000 to 25 watts (Aussie 250 watters please note!). 3YW's Rx is coming along slowly, but is sadly hampered by stocktaking. 3ARM seems to be straying from the straight and narrow as last heard he was deep in conversation with 3DP on astro-compasses, and the fact that he was only 2-3 chains out after pacing out a line 1¼ miles long. 3RR is still v.h.f. happy at Horsham, last heard was goading 3AGD into putting the 144 Mc. beam up again to contact Dunkeld.

GEELONG AMATEUR RADIO CLUB

The two meetings of the above club were well attended by members. Bob 3IC is conducting a morse class which is coming on very well. Mr. J. Beckingham brought along a relay controlled two-stage xtal rig, including a modulator and power supply, built on the one chassis. The workmanship of this gear was a credit to Mr. Beckingham. The syllabus for the forthcoming 12 months was finalised and should be an interesting year for members.

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QUEENSLAND

Poorly attended was the monthly meeting, held on the third Friday of May at the Institute of Engineers' Rooms, next to the Civic Theatre, Valley. This fact was noted and commented on by quite a few of the older members

present who found it hard to reconcile such a state of affairs with a slowly increasing membership for the Division. In wrestling with this problem in the hope of finding the answers, suggestions were put forward in regard to more social activities, more lectures by our leading Hams on v.h.f. activities, antenna systems, transmitter and receiver construction, etc. Also stressed was the advisability of making meetings more popular by devoting a half hour or so to auction sales and selling and swapping of gear. So, whilst we are hot on the subject of the last named which seems to be popular with all members, it is suggested that you delve deeply into junk boxes and get out all the gear, even the smallest bits and pieces, you want to auction, sell, or swap and drop a list of same to the Secretary, J. F. Pickles, Box 638J, G.P.O., Brisbane.

Old Timers' Night: Other points which came forward in an endeavour to remedy the attendance situation resulted in this month's meeting taking the form of an Old Timers' Night. Numerous invitations have gone out and already many old timers, some early pioneers, have signified their intention of being present. So set aside the third Friday evening of this month for what promises to be the brightest and most enjoyable meeting of the year. No need to say you'll hear the veil of time lifted whilst the old timers reminisce over the days when t.p.t.g. and Hartley rigs held pride of place.

The speaker for the evening was 4KS who gave an impromptu account of a recent 4,000 miles holiday motoring tour, with family, through the lands of VK2, VK3 and VK5. A little two-stage portable rig was squeezed in at the last moment and according to Keith it was the key to the door of many fine new friendships and of inestimable value from time of departure to return.

PERSONAL ITEMS

Other Sunday, Emergency Network Manager, 4AW, was so sore that none durst go near him. Only two, 4GH and 4BW, toed the line for network drill and to use Arthur's own words "It was a washout." What about it network members? Eric 4DY inactive for about 12 years but renews license yearly—joining W.I.A. on Old Timers' Night. Russ 2XK sure putting Papua on map, his long wire seems to have lobes at every point of the compass. Tom 4PD and Cedric 4PT both experiencing trouble with noise level. Keen to get Contest Committee to stage an 80 metre show is George 4GG. Using home-made electric winder, Jim 4FR, now winding own trannies. Jim 4XL disgusted with conditions for contest during May. Understand Russ 4PN is still bitten with 144 Mc. bug. 4CU of Clifton often forsakes high frequencies and pops into 40 mx Sunday phone hook-up. Proud "poppa" Bert 4AO, busy building own home. If you want to make serious-John (4RT) smile, tell him where to get a good modulation tranny.

Aussie 4TN always good for a ragchew on 14 Mc. phone. 4KW and 4BQ seem to be only ones really active in Mackay area. Heard Bill with VQ8CB around 8 p.m. other evening, but couldn't find a trace of the Mauritius sig here. Found, at Bulimba, in newspaper business, ex-4GK, old timer supreme; don't be surprised if Mac makes a comeback. Pat 4KD very quiet these days both on the air and at meetings. Likes VK4 winter sunshine does Alan 2AIR, who is up here on aircraft service for few months.

CLARE'S CORNER

Observations during the month on the new 21 Mc. band revealed that as conditions on the band waned, so did the interest. Tibby 4HR reports that the band showed most promise on the opening week-end and his log to date reads 10 countries for about forty QSOs. Others heard on 21 Mc. c.w., working most W districts and an occasional Central American were 4WF, 4AP and 4JU.

It is whispered that 4XY who has been swotting almost nightly at the University will soon have the title of Radsar Inspector. Congratulations Lloyd. Since the arrival of a new brass-pounder, Don 4GP never seems to have time to trouble about the ether. Just the opposite is the case of 4FJ; Roy has jumped a few rungs up the DX C.C. ladder since his brass-pounder's arrival. Conclude by congratulating 4KS/P and 4HR/P and assistants 4YA and 4RL on their success in last N.F.D.

TOWNSVILLE ZONE (By 4RW)

Conditions have never been so poor up here as during the month of May. Opening of our new 21 Mc. band stimulated some interest, but this was soon lacking due to band deteriorating.

Two new prefixes, OD5AR and DP5LD, were heard but no dope on their location. Perhaps 4QL can supply their QTH's in next month's notes. A 5A2TO was contacted but the QSO marred by QSB. Personal pars are almost out due to inactivity in this zone. Have heard Alan on 21 Mc. but none of the other locals. Eric, 4EL will be hard nut to crack in Inospheric Contest if he keeps up his QSO per day with G5ZA. He has had over 600 contacts with the G station to date. 8FN and 9GM spasmodically active on 7 Mc. 2QI, mobile marine, is in port and hope Chris can get out for a visit. Incidentally, any Amateur passing through this way is cordially invited to call at the 4RW shack.

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SOUTH AUSTRALIA

The readers of these notes for the month of May will now stand to attention whilst a 24-gun salute is fired, whilst a tumultous multitude cheer themselves hoarse, and whilst the Past President kneels in obeisance to the new VK5 President—Rah-Rah-Rah.

The monthly general meeting of the VK5 Division for May was held in the clubrooms to a very representative gathering of members to whom Mr. R. Harris (5FL) gave a very interesting lecture on "Plastics and Plastic Insulation." Ross held his audience for over an hour in rapt attention and at the conclusion of his talk he was besieged with questions, the nature of which clearly indicated how effective his talk had been. The vote of thanks to the lecturer was ably presented by visiting ex-VK5SU (now VR2BJ), to wit Malcolm Gray.

Among the visitors were Messrs. N. Butstone, A. McRitchie (5CE), M. Campbell, L. Dolan, D. Walcot (VR1D soon to be VR2CL), M. Gray (VR2BJ), and last but not least, Mr. Lampere (3ALL), who came in late and left early, thus giving us no chance to give him our usual hearty welcome.

For many years now I have always thought that "Doc" 5MD, as President of our Division for the past two years, was participating in some sort of "handout" which was only available to the President. He hotly denied this aspersion of course, and always said, "wait until the day comes that you are President and then you will see just how much anybody gives you." As President of the May meeting it was my pleasure to receive from the lecturer, as a token of his appreciation and esteem, a plastic beer mug. Need I say more! "Doc" is now running around in circles screaming at the top of his voice, "Two years as President and nobody ever as much as gave me a kind smile, and then this upstart gets a present the very first night that he is in the chair." Mr. Edward Barbier (5MD), may I be excused for quoting, "He who excuses only accuses." You Beaut!

The following executive officers to the VK5 Council were appointed this month:—President and Chairman of the VK5 Division, 5PS; Past President, 5MD; Vice-President, 5XU; Secretary, 5RR; Treasurer, 5FO; Minute Secretary, 5DH; Federal Councillor, 5KX; V.h.f. Representative, 5JD; Programme Organiser, 5AJ; W.I.A. Official Operator, 5AW; Membership Organiser, 5JO; Traffic Manager, 5JT; and Associate Members' Representatives, J. Paris and J. Sappistzer. Members of the Division will agree that this is a strong executive line-up and all of these gentlemen have given long service in the cause of Amateur Radio. Give them your support throughout the coming year.

5CH is still out in the country and therefore remains on the inactive list. Claude was recently seen by one of my spies leaving the Mt. Gambier gaol, but I feel sure that this is not "the country." 5TW has had a few contacts on 20 and 40 mx, but Tom finds the bands very quiet these days. He was also seen leaving the Mt. Gambier gaol with a worried look on his face and when someone rattled some keys near him the other day he gave a noticeable shudder. There is some mystery here that I must unravel. 5JA has his 2 mx beam erected up in a tree so maybe he will soon get around to connecting it to a Tx. John, I have repeatedly referred in these notes to that well known proverb, "DX Before Dishes" and I hope that you heed it.

5KU has at long last erected his beam pole which I understand is an example of craftmanship well in keeping with the type of work that Erg turns out. After checking the job he has done on the splicing of the guy wires, I can quite see why his gliders stay up in the air. 5FD has been keeping the moths out of his equipment by working a few stations on 40 mx, and John gave Erg a hand with the erection of the previously mentioned beam pole, which I forgot to mention is 4"x 4" oregon, 45 feet high. 5MS is still impatiently waiting for the a.c. power to be connected and I believe Stuart has bitten his finger nails up to the elbow from frustration. 5PB is busy house-building at the moment and therefore Wally does not even know what the words Amateur Radio mean, although he will eventually get time to puzzle it all out.

Jack Fowler, who is a new Associate member from the Mount way, is captain of the Emergency Fire Service Communication Unit, and has been experimenting with some new aerials. Welcome to the gang Jack, see you on the air sometime? 5CJ is at present hiding his blushes from the world as recently he made the mistake of asking 5JO what his christian name was. What did you tell him Joe? Which all goes to prove that Colin's recent assertion that his memory was not what it was, might be right. Col, how could you. The Mt. Gambier gang weathered a visit from those two intrepid motorists, 5BZ and 5MD, during the first week in May. These two speed demons, accompanied only by their better three-quarters, successfully bridged the gap which lies between the City and the Mount in the record time of some sixteen hours or so. Neither of these two daredevils would disclose details of their nightmare ride, but it is common gossip that speeds of up to 25 miles per hour were maintained for periods of twenty minutes or so. Joking aside, the Mount gang were very pleased to see them and hoped that they enjoyed their sojourn.

5DP is now in a position to disclose just how good his new antenna really is, and is prepared to back it against any other type when the conditions are unstable. He tells me that in no circumstances should the bath plug be removed whilst he is on the air as the ground plane assumes diametric centrifugal co-axical resonance with the U bend, with very telling effects. Les 5UX received a letter from a well known radio firm in Adelaide who advised him that they had stocks of a geranium diode GEX35. So far Les has not been able to find out exactly what colour the GEX35 will be in bloom, but he understands that the leaves grow upside down, thus permitting the dew drops to flutter in one direction. Incidentally, the poles for a.c. are now up near the QTH of "Uncle Xray" and he expects to have the power on in 1957, oh well if you must have accuracy, 1956 and a half. 5BC is much too busy building the new broadcasting station 5RM to have time for Amateur Radio, but possibly Hughie is resting his laurels on the strength of his efforts in the Ross Hull Memorial Contest. Congrats again Otto.

5KW is still building a 6 mx converter but Harry finds time for a few contacts on 40 mx. Still keeping well OM? 5CF has a new v.f.o. working at last and Murray also manages a contact or so on 40 mx. 5TL is not as active as yet, but is busy setting up his rack and panel and may be heard on the air any time now. Tom listens to the Sunday morning W.I.A. broadcast regularly and we all hope down here that you have settled in OK by now. Have you frightened the natives yet with "Rattling Salvation?" 5RE is rebuilding his antenna feeders, changing from 300 ohm plastic to 300 ohm spaced line, but Hobby is apparently not active during his changeover. 5MA is only active on 40 mx on Sunday mornings around W.I.A. broadcasts but Fred is doing his bit for Ham Radio by keeping me in touch with the local boys. Many tnx. Two city slickers who have been working at the aforementioned broadcasting station at Renmark or Berri, take your pick, are George 5GS and Sid 5ME, and my spies say that Clarrie 5KL called in to see Tom 5TL on the way to visit Merbier (near Mildura).

Mentioned in last month's notes that Alec Kelly, from up the Murray way, was a likely starter again in Amateur Radio, and I believe that he is champing at the bit but so far no call sign has arrived. All of the Renmark and Berri members of the W.I.A. are having a meeting at Spring Cart Gully (yes, that name is fair dinkum, believe it or not) on the same night as the W.I.A. meets in the city, to determine whether or not they will continue to hold their meetings always on the second Tuesday in each month. It is also hoped to finalise at this meeting details concerning the formation of an Upper Murray Network (preferably v.h.f.) which will be called something like "The Association of Upper Murray Members of the W.I.A. (S.A. Division)." Nice work, fellows.

5SL, now resident in the city, is blushing profusely at all the nice things that he read about himself in last month's "A.R." He said that he was not sure whether it was an obituary notice, on account of all the pats on the back. Laurie old son, you must have deserved it, because my spies always tell the truth, you should know that.

This paragraph should really be in the articles for loan, but I have been asked by the XYL of Hal 5AW to see if anyone is interested in borrowing his modulated oscillator. She tells me that the whoo-oo-oo-oo that comes out of it is wearing her down and if it goes on much longer she will be forced to jump on it. I pointed out to her that my XYL said the same thing to me the last time that I borrowed it, but in my case it went whee-ee-ee-ee. Please see if you can help her fellows, before she goes wow-ow-ow-ow.

As the newly appointed President of the VK5 Division who is also the scribe, I am in the happy position of being able to close these notes for the month of July with a few words of thanks to those misguided members of the VK5 Council who voted me into the exalted position I now hold. I thank them for the honour that they have bestowed upon me and I can assure them that I fully realise that in following in the footsteps of last year's President ("Doc" 5MD), I have been set a task that will take some accomplishing. However,

I can only do my best, and if a faith in our grand game of Ham Radio is any recommendation, then I come to you well recommended. There is one small point that I would like to clear up at this juncture, in fairness to myself, and that is that as a scribe I often give the appearance of being a definite dill, but don't let that trick you when you see me disguised as the President of the leading Division of the W.I.A. The scribe for VK6 will now take his vitriolic pen, dip it into the vitriolic inkwell, and put to paper a vitriolic sentence pertinent to Pansy the President.

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WESTERN AUSTRALIA

At the May general meeting of the Division business dealt with included applications for membership from 6GB and 6TR, both of whom were welcomed to the fold; Jack once again, and Tom for the first time. Resignations from 6KX, 6MK and 6LU were deferred on the motion of 6JW to the June meeting. The President (6AG) gave a report on the May Council meeting and as other officers had nothing to report, next business to come up was that of calling for applications for the post of Traffic Manager. None were forthcoming so it was decided to advertise in the members' bulletin for aspirants. The same overwhelming response greeted the discussion on forming a Contest Committee, so a sub-committee of Council is to be formed to co-opt other members if thought necessary. Watch out boys, the press-gang will be abroad again!

One of the evening's pleasant surprises was the presentation by the President to 6RU of the bronze medallion Jim won in the 1951 Jubilee Relay. Congrats, Jim! Further presentations included an Honorary Life Membership Certificate to Wally 6AG by the immediate past President, 6JW. Wally certainly deserves this honour for he is without doubt one of the few now-active Hams in VK6 who was in the game right back in the very early pre-broadcasting days and has been all along a staunch worker for the Institute. Wally hasn't been afraid to air his grievances from time to time and hasn't sulked when the opposing forces have said their say, sometimes in emphatic terms. I'm sure I echo the sentiments of all VK6s, old and new, when I say "heartiest congratulations, Wal, on that Life Membership and on your election as President." (As 6PS would say—I'll get on!) The remaining presentation also concerned 6AG who received from 6HL (on 6FL's behalf and his own) the Lambert and Lang trophy, won by 6AG at the recent Field Day and picnic outing. Both presentations were applauded and Wally made suitable response.

Other business included the acceptance of radio clubs and societies into the W.I.A. and the rules governing same and also the opening of the 21 Mc. band. The former I don't intend to touch on here and the latter appeared to arouse some acrimony among those who seemed to think that "someone" knew about the P.M.G's. decision sooner than the editorial in "A.R." would indicate. Anyway, what are you beefing about, fellows? We've got the band (or those sections of it not occupied by commercial f.s.k. stations) and it's not yielding much anyway. Perhaps someone's "narked" at not having sufficient advance information to "beat the gun" as some people seem to like doing! I have no information as I write this as to whether 3XU turned up at the June meeting—if he did, I'll bet he had a hot time answering questions. We are an insular lot in VK6!

Main business of the evening was the report on Federal Convention by our Councillor, Ron 6KW. As well as giving a report on the agenda items, voting, etc., he also showed a short film of Convention personalities and some "stills" of the recent Field Day. Then followed 6BB's informal, but highly interesting, talk on his recent trip to the U.K. I quote from 6LJ's meeting minutes—"Portion of 6BB's discussion was recorded by courtesy of 6KW and will be re-broadcast if possible over 6WI after suitable censorship."

Dossier on Doings.—6RO fishes, they tell me—but the fish don't! 6HR's wench—sorry, Lou—winch works very nicely hauling his "ostrich special" up out of the ground and, as required, lowering it back again. 6BR is investing in a small yacht; too small altogether—no room for a portable, Barry says. What's Ham Radio coming to? 6BS tells me he's just had an antenna pole down for the first time in 20 years for a re-paint. 6DJ is doing some rebuilding, including something likely to become known as "Bill's Old Oak Chest." It's a rig for c.w. only with a 211 in the p.a. and built (just for nostalgia's sake) on good old bread-board lines. The "deck" is a family heirloom—an oak leaf out of Mum's extension dining table. Well, I've heard of some hostile Mums and XYLs, I've met some completely detached and apathetic ditto, but this must surely rank as an all-time high in indulgent womenfolk! How do you do it, Bill?

6VM having the beam galvanised. 6JW not heard often but busy trying to make a good Rx out of an SX24. 6MK bemoans the fact that there is little to work on any band and is still doing his best (my spies report) to put his boat up on a reef or sandbank or something. 6TR had an inspection by the R.I. and is busy putting one or two points to rights. 6LM is doing the rounds of the country areas and finding them (I'm told) most lucrative as well as a first-class opportunity for meeting country Hams. 6WS recently lectured before the Radio Society. Skipper's still waiting for that prop. pitch motor but nevertheless manages an occasional contact with the reliable portable. 6FL has the tower up and beam ready to attach but is cogitating about adding elements for 21 Mc. before setting it up. 6RW busy with a converter for "six" and planning portable rig. 6HK is mostly on "six" where the new p.p. 534 final is operating but c.w. only till the new mod. is completed.

6BO keeps popping up on most bands, mostly 7 and 21 Mc. Evidently things on 144 and higher are quiet! 6AP no beam, no DX, no incentive; result: Alf is getting more and more sleep and, I'm told, liking it. 6FW having completed his Bassendean home lost no time in getting on the air. Between new home chores, Ham Radio and two jun. ops, Frank is a busy man. 6MB works 'em on 21 with his antenna on the roof and says it's no trouble! 6KW and 6RU quiet these days, except for an occasional (very occasional) appearance on 7 Mc. Jim visited Geraldton recently and allowed a few precious minutes of his time for me to drool over his latest car. Jim no doubt girding his loins to do battle again in the R.D. and I sincerely hope you and the other top-scorers get better support this year, Jim. Last year's poor show must NOT be repeated.

6LW lived up to his record and was on 21 Mc. as soon as the clock and the calendar proclaimed 1st May. Wal's made a feature of always being first in on any new band released and I'm thinking of asking the P.M.G. to take 7 Mc. away from us for a couple of months, then releasing it again—maybe I'd have a chance of a QSO with 6LW again after all these years! Apart from those already mentioned in despatches, the following have been noted on 7 Mc. in recent weeks, some frequently, others just for one or two visits: 6EL, 6JC, 6JG, 6MG, 6MU, 6EW, 6LT, 6LC, 6AR, 6JP, 6YZ, 6TK and 6TY.

And now, to close on a sad note. My copy of "A.R." is even later in arriving than I am in sending in these notes, so I don't know what 5PS has to say about me and will have to reply to any slanders, etc., in the August issue. But I did appreciate his May comment, and only hope that I'm not kidding myself—perhaps the notice taken of this column in VK5 is hostile notice—good grief, I hadn't thought of that! See you next month—I hope.

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TASMANIA

The June general meeting was held in the Photographic Society's Room on Thursday, 5th June, and was presided over, as usual, by Bob O'May. The attendance was rather good, when one considers that Hobart had been experiencing almost continuous rain for several days, plus temperatures lower than usual. The evening's main item of interest was a lecture on "X-Ray Equipment and Technique," by Mr. Tom Allen. Illustrated per medium of film stills, this lecture proved highly interesting, and was greatly appreciated by all present. Welcome visitors to the meeting were Bill Nicholl, associate member from N.S.W. Hunter Branch, and associate member Graham Nicholls from our Northern Zone.

Our congratulations go to Doug Watkins, 7DZ, who enjoys the unique distinction of being the 100th Ham to be licensed in Tasmania. From what I hear, Doug is quite active already, and has no intention of letting any cob-webs gather on his final. A welcome also to new associate member, Don Simpson, of Taroona. Methinks that once we get Don's XYL on our side, it won't be long before Don is contributing his share of r.f. to that already in circulation. Taroona should be a good spot Don, with little or no opposition, so the rest is up to you. Further congratulations also to associate member, Roy Emmerton, who, having passed the A.O.C.P., now awaits a call sign. Believe also that associate Don Clifford has only the code hurdle to clear now, so it's head down and tail up Don, and best of luck to you.

Members are reminded that since our financial year has been changed (1st March to end of February), subs due now are on a pro rata basis, for eight months ending 28th Feb., 1953.

According to various reports, there has been no drastic change in reception conditions on the various bands, and the spell of cold, wet weather has done little to promote activity. In fact, it's quite common these days to hear someone say that he must vacate his shack soon before frost-bite prevents him from so doing. There is also a lull on 2 mx at the moment, but this can be readily rectified if some of you chaps who are "nearly there," just make the final effort. So what about it fellows, it's a far less painful process going crackers on 144, than by looking for DX on the other bands.

I have no direct news to hand on 7MY, but latest grape-vine is "that there bug" is biting again, and Alan may soon show up again in the 2 mx band. Pressure of business is unfortunately keeping 7LD inactive, but Len, just think of all those condensers drying up. Better have a weekly "switching on" ritual, and keep in touch at the same time. 7DA is revamping his Rx preparatory to returning to the fold. Can't quite make out why he gave me such a bellicose look, when all I said to him was QX. I am still awaiting gentle enlightenment on the subject.

Bill 7WG has been working diligently on gear for some time now. With two harmonics to hand, it's soon time we tuned in your fundamental Bill. 7RY and 7SD heard in c.w. contact resting their vocal chords, whilst 7SK, 7RM, 7RX and 7AJ have been proving quite conclusively that whatever else the 20 mx band lacks, it shall not be wanting in local activity. 7ML is having some difficulty in convincing fellow Hams that he is really serious in his efforts to get rid of certain equipment. That twinkle in the eye seems to be your undoing, Max. Well, it's hard to say which has been the hardest to acquire during May—news or DX. Here's hoping June proves more fruitful in both.

NORTHERN ZONE

A most interesting letter to hand from 7BQ in G land via 7SA, for which many thanks Chas. Len visited 7SA's mother near Cambridge and also spent some time with G3CJY, Col Washtell, who also works 14 Mc. with G2PU. Len appears to have collected a vast store of information on the doings of the G lads in the 144 Mc. field. Chas hopes to be back on 20 mx by the time this appears. 144 Mc. has been quiet here as most are inactive at the time on this frequency. 7LZ is still operating on the appearance of his house, whilst 7PF has been busy with studies. From 7GM comes the news that 7LX is so pleased with his W8JK antenna that Ken is rebuilding the Tx for 100w.

Max 7CA has been nobly upholding the zone honour on 40 with 7GM doing a bit on 80. Our last lecture was most ably presented by Ron Rich and was appreciated by all. We are getting better attendances at meetings and that is most gratifying to all. Associate Graeme Nicholls spent a few weeks holidaying in Hobart, whilst the fact that our trams are again running on time indicates that Henry Solomon is back in harness after his illness.

NORTH WESTERN ZONE

A new design of Rx circuit has come to hand which uses Franklin osc. and many other improvements and seems to be very popular at the moment. I believe 7WA has nearly finished his new Rx. A new comer to the North West is Mr. Honey who has had experience with t.v. in England and is late VP9, of Burmuda. The May meeting was well attended at the home of yours truly. Last month's meeting was held at station 7WA.

Have not heard much of 7KB lately. I guess the high pressure of work has kept him from coming on the air. Saw 7AI the other day. He is experimenting with new types of oscillators, a new design of audio oscillator has just been completed, and a 100 Kc. frequency standard with built-in interpolation is nearly completed. He is also experimenting with time bases and c.r.o. tubes.

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